

Ref	Items	Type	RT	Index-term
R1	1778	X	12	*TRANSFERIN
R2	10525	X	DC=D12.776.124.50.800.	(TRANSFERIN)
R3	10525	X	DC=D12.776.124.790.223.839.	(TRANSFERIN)
R4	10525	X	DC=D12.776.157.890.	(TRANSFERIN)
R5	10525	X	DC=D12.776.377.715.182.839.	(TRANSFERIN)
R6	10525	X	DC=D12.776.556.901.	(TRANSFERIN)
R7	28	X	1	SIDEROPHILIN
R8	66960	R	13	IRON
R9	2785	R	5	RECEPTORS, TRANSFERRIN
R10	1910	B	20	ACUTE-PHASE PROTEINS
R11	2917	B	11	B-GLOBULINS
R12	47607	B	92	CARRIER PROTEINS
Ref	Items	Type	RT	Index-term
R1	57961	X	12	*GENE EXPRESSION
R2	57961	X	DC=G5.331.370.	(GENE EXPRESSION)
R3	11957	R	9	PHENOTYPE
R4	5905	B	129	GENETICS, BIOCHEMICAL
R5	590	N	5	AMINO ACID ACTIVATION
R6	111	N	5	FRAMESHIFTING, RIBOSOMAL
R7	1554	N	4	GENOMIC IMPRINTING
R8	1355	N	6	PEPTIDE CHAIN ELONGATION
R9	2449	N	7	PEPTIDE CHAIN INITIATION
R10	917	N	6	PEPTIDE CHAIN TERMINATION
R11	176	N	3	POLARITY OF TRANSLATION
R12	80177	N	15	TRANSCRIPTION, GENETIC
Set	Items	Description		
S1	1778	"TRANSFERIN"		
S2	769	"TRANSFERIN - GENETICS - GE"		
S3	10525	DC="D12.776.124.50.800."		
S4	7435	"RECOMBINANT FUSION PROTEINS - BIOSYNTHESIS B"		
S5	13306	"RECOMBINANT PROTEINS - BIOSYNTHESIS - BI"		
S6	27	S3 AND S5		
S7	17	S4 AND S3 NOT S6		
S7961	DC="G5.331.370."			
S4	S3 AND S8 NOT (S6 OR S7)			
S10	194	S2 AND EXPRESS? NOT (S6 OR S7)		
S11	13	S10 AND PLASMID?		
S12	7	S2 AND PLASMID? NOT (S6 OR S7 OR S11)		
S13	42	S3 AND PLASMID? NOT (S6 OR S7 OR S11 OR S2)		
6/6/1	10625460	20401464		
	Selective gene expression in hepatic tumor with trans-arterial delivery of DNA/liposome/transferin complex. Jul-Aug 2000			
6/6/2	10515902	20200236		
	Ferritin from the obligate anaerobe <i>Porphyromonas gingivalis</i> : purification, gene cloning and mutant studies. May 2000			
6/6/3	10016106	99362690		
	The poly(A)-limiting element is a conserved cis-acting sequence that regulates poly(A) tail length on nuclear pre-mRNAs. Aug 3 1999			
6/6/4	09821374	99150972		
	Gene-modified dendritic cells by receptor-mediated transfection. 1998			
6/6/5	09813902	99155227		
	X-ray crystallography and mass spectroscopy reveal that the N-lobe of human transferrin expressed in <i>Pichia pastoris</i> is folded correctly but is glycosylated on serine-32. Feb 23 1999			
6/6/6	09664817	98426066		
	Iron release is reduced by mutations of lysines 206 and 296 in recombinant N-terminal half-transferin. Sep 29 1998			
6/6/7	09421766	98070718		
	Characterization of the <i>Pasteurella haemolytica</i> transferrin receptor genes and the recombinant receptor proteins. Nov 1997			
6/6/8	09393093	98030902		
	Transferrin is an early marker of hepatic differentiation, and its expression correlates with the postnatal development of oligodendrocytes in mice. Nov 1 1997			
6/6/9	09314815	97479201		
	Receptor recognition sites reside in both lobes of human serum transferrin. Aug 15 1997			
6/6/10	09042304	96261067		
	Production of recombinant human monoclonal antibody using ras-amplified BHK-21 cells in a protein-free medium. May 1996			
6/6/11	09004888	96341687		
	Distinct positive and negative regulatory elements control neuronal and hepatic transcription of the human transferrin gene. Feb 1 1996			
6/6/12	08722642	96264874		
	Intertube communication in ¹³ C-methionine-labeled human transferrin. Jun 18 1996			
6/6/13	08714177	96218058		
	Nucleotide sequence of transferrin cDNAs and tissue-specific of the transferrin gene in Atlantic cod (<i>Gadus morhua</i>). Feb 1996			
6/6/14	08703955	96106930		
	Production of lipidated meningococcal transferrin binding protein 2 in <i>Escherichia coli</i> . Oct 1995			
6/6/15	08701327	96059957		
	Tightly regulated and inducible expression of dominant interfering dynamin mutant in stably transformed HeLa cells. 1995			
6/6/16	08635586	96200999		
	Cloning and characterization of the human taurate-resistant acid phosphatase (TRAP) gene. Apr 1996			
6/6/17	08471298	96106936		
	Production and purification of N-terminal half-transferin in <i>Pichia pastoris</i> . Oct 1995			
6/6/18	08426605	96078941		
	Optimized bacterial production of nonglycosylated human transferrin and its half-molecules. Aug 1995			
6/6/19	08404715	96016189		
	A novel iron uptake mechanism mediated by GPI-anchored human p97. Sep 1 1995			
6/6/20	08320009	95310332		
	Oligomeric transferrin receptors are selectively retained by a luminal sorting signal in a long-lived endocytic recycling compartment. Jun 1995			
6/6/21	08150955	95200743		
	Evaluation of membranes for use in on-line cell separation during mammalian cell perfusion processes. 1994			
6/6/22	07864704	94171934		
	Molecular cloning and subcellular localization of three GTP-binding proteins of the rab subfamily. Dec 1993			
6/6/23	07775815	93199775		
	Production of N-terminal and C-terminal human serum transferrin in <i>Escherichia coli</i> . Mar 1993			
6/6/24	07082554	92347704		
	Production of human serum transferrin in <i>Escherichia coli</i> . Aug 15 1992			
6/6/25	06894237	92338899		
	Efficient production and isolation of recombinant amino-terminal half-molecule of human serum transferrin from baby hamster kidney cells. Apr-Jun 1991			
6/6/26	06389815	90241967		
	Expression of the amino-terminal half-molecule of human serum transferrin in cultured cells and characterization of the recombinant protein. Feb 13 1990			
6/6/27	05061914	87280357		
	Functional expression of the human transferrin receptor cDNA in Chinese hamster ovary cells deficient in endogenous transferrin receptor. Jul 1987			
6/7/26	DIALOG(R)File 155: MEDLINE(R) (c) format only 2000 Dialog Corporation. All its. reserv.			
	06389815 90241967			
	Expression of the amino-terminal half-molecule of human serum transferrin in cultured cells and characterization of the recombinant protein.			
	Eunk WJ, MacGillivray RT, Mason AB, Brown SA, Woodworth RC			
	Department of Biochemistry, University of British Columbia,			
	Vancouver, Canada.			
	Biochemistry (UNITED STATES). Feb 13 1990. 29 (6) p1654-60. ISSN			
	0006-2960 Journal Code: AOG			
	Contract/Grant No.: DK21739. DK. NIDDK - Languages: ENGLISH			
	Document type: JOURNAL ARTICLE			
	A human liver cDNA library was screened with a synthetic			
	oligonucleotide, complementary to the 5' region of human transferrin mRNA,			
	as a hybridization probe. The full-length human cDNA clone isolated from			
	this screen contained part of the 5' untranslated region, the complete coding			
	region for the signal peptide and the two lobes of transferrin, the 3'			
	untranslated region, and a poly(A) tail. By use of oligonucleotide-directed			
	mutagenesis in vitro, two translational stop codons and a HindIII site were			
	introduced after the codon for Asp-337. This fragment was inserted into two			
	different expression vectors that were then introduced into <i>Escherichia coli</i> .			
	As judged by NaDodSO4-polyacrylamide gel electrophoresis and Western			
	blot analysis, however, recombinant hTF/2N was undetectable in bacteria			
	transformed by these plasmids. Concurrently, we developed a plasmid vector			
	for the expression of recombinant hTF/2N in eukaryotic cells. In this case, a			
	DNA fragment coding for the natural signal sequence, the hTF/2N lobe, and			
	the two stop codons was cloned into the expression vector pNUT, such that			
	the expression of hTF/2N was controlled by the mouse metallothionein			
	promoter and the human growth hormone termination sequences. Baby			
	hamster kidney cells containing this hTF/2N-pNUT plasmid secreted up to			
	20 mg of recombinant hTF/2N per liter of tissue culture medium.			
	Recombinant hTF/2N was purified from the medium by successive			
	chromatography steps on DEAE-Sephacel, Sephadex G-75, and FPLC on			
	Polyation SL. The purified protein was characterized by NaDodSO4-PAGE,			
	urea-PAGE, amino-terminal sequence analysis, UV-visible spectroscopy,			
	ion-binding titration, and proton NMR (ABSTRACT TRUNCATED AT			
	250 WORDS)			
7/6/1	10939667	21093838		
	Expression of the DNAT1 (NRAMP2/DC11) iron transporter in mice with genetic iron overload disorders. Feb 15 2001			
7/6/2	10570641	20440189		
	C/EBP beta, when expressed from the C/ebp alpha gene locus, can functionally replace C/EBP alpha in liver but not in adipose tissue. Oct 2000			
7/6/3	10239127	20072226		
	Uptake of exogenous DNA via the skin. Oct 1999			
7/6/4	10158591	99447650		

- An antigenic HIV-1 peptide sequence engineered into the surface structure of transferrin does not elicit an antibody response. Oct 8 1999
- 7/6/5 09704303 98439957
Production and characterization of fusion proteins containing transferrin and nerve growth factor. 1998
- 7/6/6 09045978 96337518
Purification and refolding of recombinant human proMMP-7 (pro-matrysin) expressed in *Escherichia coli* and its characterization. Apr 1996
- 7/6/7 08826970 96432149
Receptor ligand-facilitated gene transfer: enhancement of liposome-mediated gene transfer and expression by transferrin. Feb 10 1996
- 7/6/8 08508345 96174911
Follicle stimulating hormone (FSH) stimulates transferrin gene transcription in rat Sertoli cells: cis and trans-acting elements involved in FSH action via cyclic adenosine 3',5'-cyclic phosphatate on the transferrin gene. Jun 1995
- 7/6/9 08366276 95377418
Interaction of DNA binding domain of HNF-3 α with its transferrin enhancer DNA specific target site. Aug 7 1995
- 7/6/10 08227227 94289506
Efficient transfection of primary cells in a canine hemophilia B model using adenovirus-polylysine-DNA complexes. Mar 1994
- 7/6/11 08154800 95346700
Molecular conjugate vectors mediate efficient gene transfer into gastrointestinal epithelial cells. Sep 1994
- 7/6/12 07931940 94259300
CCC UGA: a new site of ribosomal frameshifting in *Escherichia coli*. May 27 1994
- 7/6/13 07817173 93257437
Posttranscriptional regulation of chimeric human transferrin genes by iron. May 11 1993
- 7/6/14 07379165 92138953
Propagation of a mouse myeloma cell line J558L producing human CD4 immunoglobulin G1. Jan 21 1992
- 7/6/15 07374173 92063692
Human transferrin: expression of chimeric genes in transgenic mice. 1991
- 7/6/16 07256922 94028419
Transfection: a highly efficient way to express gene constructs in eukaryotic cells. Oct 28 1992
- 7/6/17 06818980 92063696
Structural-functional studies of human transferrin by using *in vitro* mutagenesis. 1991
- 7/7/17 DIALOG(R)/File 155:MEDLINE(R) (c) format only 2000 Dialog Corporation. All rts. reserv.
06818980 92063696
Structural-functional studies of human transferrin by using *in vitro* mutagenesis.
Chow BK; Funk WD; Banfield DK; Lineback JA; Mason AB; Woodworth RC; MacGillivray RT
Department of Biochemistry, University of British Columbia, Vancouver, Canada.
Current studies in hematology and blood transfusion (SWITZERLAND) 1991, (38) p132-8. ISSN 0258-0330 Journal Code: DWT Contract/Grant No.: DK21739. DK. NIDDK Languages: ENGLISH Document type: JOURNAL ARTICLE. REVIEW. REVIEW. TUTORIAL. (12 Refs.)
- 9/6/51 08285206 95256432
Lipid-induced changes in intracellular iron homeostasis *in vitro* and *in vivo*. May 1995
- 9/6/52 08243973 95152044
Cytokine-mediated regulation of transferrin synthesis in mouse macrophages and human T lymphocytes. Feb 15 1995
- 9/6/53 08173991 95202147
Colony isolation and secondary culture of fetal porcine hepatocytes on STO feeder cells. Dec 1994
- 9/6/54 08148020 95265682
Cellular iron homeostasis: a paradigm for mechanisms of posttranscriptional control of gene expression. 1994
- 9/6/55 08130814 95193585
Cellular ferritin uptake: a highly regulated pathway for iron assimilation in human erythroid precursor cells. 1994
- 9/6/56 08117363 95162708
An *in vivo* study of the effect of 5-HT and sympathetic nerves on transferrin and transferrin mRNA expression in rat choroid plexus and meninges. Oct 31 1994
- 9/6/57 08023329 95015151
Spatial and temporal expression of transferrin gene in the rat mammary gland. Jul 1994
- 9/6/58 07962022 94307187
Peritubular myoid cells from immature rat testes secrete activin-A and express activin receptor type II *in vitro*. Aug 1994
- 9/6/59 07822943 93358351
Brain and liver targeted overexpression of O₆-methylguanine DNA methyltransferase in transgenic mice. Aug 1993
- 9/6/60 0778277 93165689
Transferrin in a cockroach: molecular cloning, characterization, and suppression by juvenile hormone. Feb 15 1993
- 9/6/61 07685398 94071822
Modulation of iron metabolism in monocyte cell line U937 by inflammatory cytokines: changes in transferrin uptake, iron handling and ferritin mRNA. Nov 15 1993
- 9/6/62 07683063 94068311
Transferrin gene expression in maternal liver, fetal liver and placenta during pregnancy in the mouse. Jul-Aug 1993
- 9/6/63 07633951 93339960
Changes of proliferative activity and phenotypes in spontaneous differentiation of a colon cancer cell line. Jun 1993
- 9/6/64 07623994 93393571
Modulation of transferrin receptor mRNA by transferrin-gallium in human myeloid HL60 and lymphoid CCRF-CEM leukemic cells. Sep 15 1993
- 9/6/65 07568790 93299388
Transferrin gene as a model for liver-specific gene expression. 1993
- 9/6/66 07552660 93271170
Expression of glycosylated and nonglycosylated human transferrin in mammalian cells. Characterization of the recombinant proteins with comparison to three commercially available transferrins. May 25 1993
- 9/6/67 07475056 92388918
Immunohistochemical expression of microtubule-associated protein 5 (MAP-5) in glial cells in multiple system atrophy. May 1992
- 9/6/68 07379661 92145640
- Introduction of the ras oncogene transforms a simian virus 40-immortalized hepatocyte cell line without loss of expression of albumin and other liver-specific genes. Feb 15 1992
- 9/6/69 07357540 91178851
Expression of chimeric human transferrin genes *in vitro*. Dec 1990
- 9/6/70 07355114 91139624
Glucose-dependent and -independent effect of insulin on gene expression. Feb 25 1991
- 9/6/71 07343540 90330684
Human transferrin. Expression and iron modulation of chimeric genes in transgenic mice. Aug 5 1990
- 9/6/72 07325976 92390364
Influenza virus hemagglutinin HA-2 N-terminal fusogenic peptides augment gene transfer by transferrin-polylysine-DNA complexes: toward a synthetic virus-like gene-transfer vehicle. Sep 1 1992
- 9/6/73 07287131 92333319
Directed establishment of rat brain cell lines with the phenotypic characteristics of type 1 astrocytes. Jul 15 1992
- 9/6/74 07281328 92157206
The effects of burn injury on the acute phase response. Feb 1992
- 9/6/75 07132238 93013215
The soluble transferrin receptor: biological aspects and clinical usefulness as quantitative measure of erythropoiesis [editorial] Jan-Feb 1992
- 9/6/76 07093711 92366441
Expression of transferrin receptors during differentiation of human placental trophoblast cells *in vitro*. Jan-Feb 1992
- 9/6/77 07075748 92335245
Coupling of adenovirus to transferrin-polylysine/DNA complexes greatly enhances receptor-mediated gene delivery and expression of transfected genes. Jul 1 1992
- 9/6/78 07008903 92203043
The mechanisms of nonheme iron uptake determined in IEC-6 rat intestinal cells. Apr 1992
- 9/6/79 06996695 92165859
Loss of one asparagine-linked oligosaccharide from human transferrin receptors results in specific cleavage and association with the endoplasmic reticulum. Mar 5 1992
- 9/6/80 06962051 91070511
Gene expression in clonally derived cell lines produced by *in vitro* transfection of rat fetal hepatocytes: isolation of cell lines which retain liver-specific markers. Dec 1 1990
- 9/6/81 06883524 92231399
A cloned gene for human transferrin. Dec 27 1991
- 9/6/82 06870529 92174016
Maintenance of liver function in long term culture of hepatocytes following *in vitro* or *in vivo* He-paseI transfection. Oct 1991
- 9/6/83 06845050 92109666
Tissue-specific ceruloplasmin gene expression in the mammary gland Dec 15 1991
- 9/6/84 06805674 92042363
Transferrin gene expression and transferrin immunolocalization in developing fetal rat lung. Jul 1991
- 9/6/85 06804973 92041056
Immunocytochemical localization of albumin, transferrin, angiotensinogen and kininogens during the initial stages of the rat liver differentiation. 1991
- 9/6/86 06666139 91141493

A transferrinlike (hemiferritin) mRNA is expressed in the germ cells of rat testis. Mar 1991

9/6/87 06664810 90278337
Phenotypic expression of the HLA linked iron-loading gene in males over the age of 40 years: a population study using serial serum ferritin estimations. Jun 1990

9/6/88 06638532 91115742
Serum-free culture of AIT 20 pituitary cells: a system for neuroendocrine studies under defined conditions. Nov 1990

9/6/89 065350341 91148372
Tissue specific expression of mouse transferrin during development and aging. Nov 1990

9/6/90 06535449 91107759
Improved coupling between proliferation-arrest and differentiation-induction in ML-1 human myeloblastic leukemia cells. Dec 1990

9/6/91 06510398 91057664
Diet-induced hypercholesterolemia in mice: prevention by overexpression of LDL receptors. Nov 30 1990

9/6/92 06396568 90258932
Germ cell regulation of Sertoli cell transferrin mRNA levels. Mar 1990

9/6/93 05788818 90094542
Hepatocyte differentiation in vitro: initiation of tyrosine aminotransferase expression in cultured fetal rat hepatocytes. Dec 1989

9/6/94 05698479 90039122
An overview of iron metabolism at a molecular level. Nov 1989

9/7/93 DIALOG(R)File 155:MEDLINE(R) (c) format only 2000 Dialog Corporation. All rts. reserv.

05788818 90094542
Hepatocyte differentiation in vitro: initiation of tyrosine aminotransferase expression in cultured fetal rat hepatocytes.
Shelly LL, Tynan W, Schmid W, Schurz G, Yeoh GC
Department of Physiology, University of Western Australia, Nedlands.
Journal of cell biology (UNITED STATES) Dec 1989, 109 (6 Pt 2) p3403-3409. ISSN 0021-9523 Journal Code: HNV Languages: ENGLISH
Document type: JOURNAL ARTICLE

9/6/94 05698479 90039122
Fetal rat hepatocyte culture system has been used to study the molecular mechanisms of tyrosine aminotransferase (TAT) gene expression during development. It has previously been shown that TAT activity can be detected in 19-d, but not 15-d, gestation hepatocytes on the first day of culture (Yeoh, G. C. T., F. A. Bennett, and I. T. Oliver. 1979. Biochem. J. 180:153-160). In this study enzyme activity, synthesis, and mRNA levels were determined in hepatocytes isolated from 13-, 15-, and 19-d gestation rats maintained in culture for 1, 2, or 3 d and exposed to dexamethasone. TAT expression is barely detectable in 13-d gestation hepatocytes even after 3 d in culture. Hepatocytes isolated from 15-d gestation fetuses have undetectable levels of enzyme activity and synthesis on the first day of culture; both can be assayed by days 2 and 3. TAT mRNA levels in these hepatocytes, measured by hybridization with a specific cDNA, increase substantially during culture. TAT activity, synthesis, and mRNA are evident on the first and subsequent days of culture in 19-d gestation hepatocytes. Transcription measurements in isolated nuclei indicate that the increase in TAT mRNA in 15- and 19-d gestation hepatocytes is associated with an increase in transcription of the gene. Immunocytochemical studies demonstrated that the increase in TAT expression correlated with an increase in the proportion of hepatocytes expressing the enzyme, rather than a simultaneous increase in all hepatocytes. These results support the proposal

that a subpopulation of 15-d fetal hepatocytes undergo differentiation in culture with respect to TAT.

9/7/94 DIALOG(R)File 155:MEDLINE(R) (c) format only 2000 Dialog Corporation. All rts. reserv.

05698479 90039122
An overview of iron metabolism at a molecular level.
Worwood M
Department of Haematology, University of Wales College of Medicine, HeathPark, Cardiff, UK.
Journal of internal medicine (ENGLAND) Nov 1989, 226 (5) p381-91, ISSN 0954-6820 Journal Code: 12G Languages: ENGLISH Document type: JOURNAL ARTICLE; REVIEW; REVIEW LITERATURE
Over the last 10 years there has been steady progress in our understanding of the structure of the iron-binding proteins transferrin and ferritin, and the transferrin receptor. In the last few years there have been very rapid developments in understanding of the genetics of these proteins and the regulation of synthesis. This review includes a description of gene localization and structure, the regulation of protein synthesis and the structure of proteins of the transferrin family, the transferrin receptor and the iron storage protein ferritin. (94 Refs.)

10/6/150 06339874 89251437
Regulation of Sertoli cell function and differentiation through the actions of a testicular paracrine factor P-Mod-S. Jun 1989

10/6/151 06244390 89386721
Changes in brain gene expression shared by scrapie and Alzheimer disease. Sep 1989

10/6/152 06224692 89039879
Tumorigenicity of simian virus 40-hepatocyte cell lines: effect of in vitro and in vivo passage on expression of liver-specific genes and oncogenes. Oct 1988

10/6/153 06209226 88112796
Changing patterns of transcriptional and post-transcriptional control of liver-specific gene expression during rat development. Dec 1987

10/6/154 06207787 88087423
Persistence of liver-specific messenger RNA in cultured hepatocytes: different regulatory events for different genes. Dec 1987

10/6/155 06181959 88284623
Liver-specific RNA metabolism in hepatoma cells: variations in transcription rates and mRNA levels. Oct 1985

10/6/156 06162640 85257666
Modifications of the expression of liver-specific and non-specific messenger RNAs during azo-dye hepatocarcinogenesis. Jul 15 1985

10/6/157 06142005 89059914
Transferrin: evolution and genetic regulation of expression. 1988

10/6/158 06096160 86005461
Transient transcriptional inhibition of the transferrin gene by cyclic AMP. Sep 23 1985

10/6/159 06076016 88273108
Interactions of DNA-binding proteins with the 5' region of the human transferrin gene. Jul 25 1988

10/6/160 06031021 86140739
Transferrin synthesis by inducer T lymphocytes. Mar 1986

10/6/161 06029290 86113415
Expression of the transferrin receptor gene during the process of mononuclear phagocyte maturation. Feb 15 1986

10/6/162 05924519 87192006

The human transferrin gene: 5' region contains conserved sequences which match the control elements regulated by heavy metals, glucocorticoids and acute phase reaction. 1986

10/6/163 05849260 89276735
Developmental patterns of gene expression of secreted proteins in brain and choroid plexus. Jul 1989

10/6/164 05843776 89137546
The expression of genes coding for positive acute-phase proteins in the reproductive tract of the female rat. High levels of ceruloplasmin mRNA in the uterus. Jan 30 1989

10/6/165 05834200 88233915
Tissue-specificity of liver gene expression: a common liver-specific promoter element. Apr 25 1988

10/6/166 05828777 88094388
Regulation of rat liver maturation in vitro by glucocorticoids. Jan 1988

10/6/167 05824080 87304304
Modulation of α -fetoprotein, albumin and transferrin gene expression by cellular interactions and dexamethasone in cocultures of fetal rat hepatocytes. Aug 1987

10/6/168 05814041 87041421
Transferrin gene activity in cultured rat Sertoli cells and intact seminiferous tubules. Nov 1986

10/6/169 05810169 86268967
The association of acute phase protein genes with the nuclear matrix of rat liver during experimental inflammation. Jun 13 1986

10/6/170 05762857 89255471
Transferrin gene expression and synthesis by cultured choroid plexus epithelial cells. Regulation by serotonin and cyclic adenosine 3',5'-monophosphate. Jun 5 1989

10/6/171 05698479 90039122
An overview of iron metabolism at a molecular level. Nov 1989

10/6/172 05629609 90097932
Expression from the transferrin gene promoter in transgenic mice. Nov 1989

10/6/173 05573016 89371754
Segregation of genetic hemochromatosis indexed by latent capacity of transferrin. Sep 1989

10/6/174 05553702 89323380
A splicing defect in the mouse transferrin gene leads to congenital atransferrinemia. Jul 1989

10/6/175 05515343 89214148
Cell type-specific expression of the human transferrin gene. Role of promoter, negative, and enhancer elements. May 5 1989

10/6/176 05493111 89098374
Different liver nuclear proteins binds to similar DNA sequences in the 5' flanking regions of three hepatic genes. Jan 11 1989

10/6/177 05316119 88213439
Role of the cytoskeleton in laminin induced mammary gene expression. Apr 1988

10/6/178 05259104 87272644
Transferrin gene expression in choroid plexus of the adult rat brain. Apr 1987

10/6/179 05194324 86193255
Plasma-protein production by rat hepatoma cells in culture, their variants and revertants. 1986

10/6/180 05170675 86233306
Rat transferrin gene expression: tissue-specific regulation by iron deficiency. Jun 1986

10/6/181 05135109 88086992
Transferrin mRNA level in the mouse mammary gland is regulated by pregnancy and extracellular matrix. Dec 25 1987

10/6/182 05046554 87242715
Stage-dependent levels of specific mRNA transcripts in Sertoli cells. May 1987

10/6/183 04973876 87004365
Estrogen regulation of the avian transferrin gene in transgenic mice. Apr 1986

10/6/184 04842726 86016769
Transferrin gene expression visualized in oligodendrocytes of the rat brain by using in situ hybridization and immunohistochemistry. Oct 1985

10/6/185 04788392 85174412
High prealbumin and transferrin mRNA levels in the choroid plexus of rat brain. Mar 29 1985

10/6/186 04552246 82277750
Expression of human hepatic genes in somatic cell hybrids. May 1982

10/6/187 04381974 85012742
An artefact explains the apparent association of the transferrin receptor with a ras gene product. Oct 18-24 1984

10/6/188 04361227 84002242
Expression of the chicken transferrin gene in transgenic mice. Sep 1983

10/6/189 04241223 84073112
Specific expression of transferrin genes. Foreign genes, which were transferred into mice, appear to be expressed according to more normal patterns of tissue distribution [news] Dec 2 1983

10/6/190 04194004 84087947
Selective block of albumin gene expression in chick embryo hepatocytes cultured without hormones and its partial reversal by insulin. Dec 25 1983

10/6/191 04112206 84256787
Expression of the transferrin gene during development of non-hepatic tissues: high level of transferrin mRNA in fetal muscle and adult brain. Jul 18 1984

10/6/192 03839138 82179572
Mapping of aminocyclase-1 and β -galactosidase-A to homologous regions of human chromosome 3 and mouse chromosome 9 suggests location of additional genes. Mar 1982

10/6/193 02929696 79159898
Expression of human hepatic genes in mouse hepatoma-human amniocyte hybrids. Jan 1979

10/6/194 02603131 79164882
The relation between transferrin locus and the breeding quality traits of our country cattle race: lowland black-white and lowland red-white. 1978

10/7/186 DIALOG(R)File 155:MEDLINE(R) (c) format only 2000 Dialog Corporation. All its. reserv.
04552246 82277750
Expression of human hepatic genes in somatic cell hybrids.
Darlington GJ, Rankin JK, Schlanger G
Somatic cell genetics (UNITED STATES) May 1982, 8 (3) p403-12, ISSN 0098-0366 Journal Code: VAJ
Languages: ENGLISH Document type: JOURNAL ARTICLE
Four diploid human cell types (lymphocytes, fibroblasts, amniotic fluid cells, and hepatocytes) were fused to mouse hepatoma cells, HH. HH synthesized and secreted several liver-specific gene products including albumin, transferrin, and α -fetoprotein. The resulting interspecific hybrids were compared to determine whether or not the pattern of human hepatic gene expression was similar when these various cells were fused with the

mouse hepatoma line. The expression of six human hepatic genes was examined, including albumin, α -fetoprotein, ceruloplasmin, transferrin, α -1-antitrypsin, and haptoglobin. Albumin was most frequently expressed while α -fetoprotein was not detected in any of the hybrids studied. The patterns of expression of human serum proteins differed between the hybrid series. Hybrids derived from human fibroblasts produced primarily albumin, while those derived from lymphoblastoid cells and amniocytes had a higher frequency of clones secreting α -1-antitrypsin. The findings reported here suggest that the frequency of hybrid clones expressing human hepatic gene products and the array of proteins produced are influenced by the histogenetic state of the human parental cell type.

10/7/188 DIALOG(R)File 155:MEDLINE(R) (c) format only 2000 Dialog Corporation. All its. reserv.
04361227 84002242
Expression of the chicken transferrin gene in transgenic mice.
McKnight GS, Hammer RE, Kuenzel EA, Binister RL
Cell (UNITED STATES) Sep 1983, 34 (2) p335-41, ISSN 0092-8674 Journal Code: CQ4
Languages: ENGLISH Document type: JOURNAL ARTICLE

The chicken transferrin gene was microinjected into the male pronucleus of fertilized mouse eggs, and the eggs were then implanted into foster mothers. Approximately 15%-30% of the offspring from the injected eggs carried chicken DNA sequences; restriction mapping indicated that multiple copies of the chicken gene had integrated into the genome in a tandem arrangement in most of the mice. Six of the seven mice studied expressed the chicken gene, and in five mice there was a 5 to 10 fold preferential expression of chicken transferrin mRNA in liver compared to that in other tissues. Chicken transferrin was secreted into the serum of five of the mice, where it reached steady state concentrations up to 67 micrograms/ml. Offspring from transgenic parents also expressed the chicken gene; in some cases the expression in offspring was very similar to the parent, but in one line expression in offspring had increased 2 to 4 fold.

10/7/189 DIALOG(R)File 155:MEDLINE(R) (c) format only 2000 Dialog Corporation. All its. reserv.
04241223 84073112
Specific expression of transferred genes. Foreign genes, which were transferred into mice, appear to be expressed according to more normal patterns of tissue distribution [news]
Marx JL
Science (UNITED STATES) Dec 2 1983, 222 (4627) p1001-2, ISSN 0036-8075 Journal Code: UJ7 Languages: ENGLISH Document type: NEWS

11/6/1 10507570 20379254
A versatile system for receptor-mediated gene delivery permits increased entry of DNA into target cells, enhanced delivery to the nucleus and elevated rates of transgene expression. Aug 2000

11/6/2 10463221 20297971
Successful transfection of lymphocytes by ternary lipoplexes. Dec 1999

11/6/3 09742157 99020112
Identification of a mutation (A1879G) of transferrin from cDNA prepared from peripheral blood cells. May 1998

11/6/4 08865796 97024440
High-yield production of functionally active human serum transferrin using a baculovirus expression system, and its structural characterization. Oct 1 1996

11/6/5 07361283 91236769
Seroi cell-specific expression of the human transferrin gene. Comparison with the liver-specific expression. May 25 1991

11/6/6 07361281 91236762
The enhancer of the human transferrin gene is organized in two structural and functional domains. May 25 1991

11/6/7 07357540 91178851
Expression of chimeric human transferrin genes in vitro. Dec 1990

11/6/8 07343540 90330684
Human transferrin. Expression and iron modulation of chimeric genes in transgenic mice. Aug 5 1990

11/6/9 07343450 90329224
Expression of chimeric human transferrin genes in transfected human tumor cell lines. Jan 1990

11/6/10 07126248 93003508
High-efficiency gene transfer mediated by adenovirus coupled to DNA-polylysine complexes. Apr 1992

11/6/11 07078485 92340395
Estrogen-dependent expression of the chicken very low density apolipoprotein II gene in serum-free cultures of LMH cells. Jun 1992

11/6/12 06883524 92231399
A cloned gene for human transferrin. Dec 27 1991

11/6/13 06831922 92084734
Characterization of the active part of the human transferrin gene enhancer and purification of two liver nuclear factors interacting with the TGTTCG motif present in this region. Dec 15 1991

11/7/7 DIALOG(R)File 155:MEDLINE(R) (c) format only 2000 Dialog Corporation. All its. reserv.
07357540 91178851

Expression of chimeric human transferrin genes in vitro.
Fischbach K, Lu Y, Tiffany-Castiglioni E, Minter A, Bowman BH, Adrian GS

Department of Cellular and Structural Biology, University of Texas HealthScience Center, San Antonio, Texas 78284.

Journal of neuroscience research (UNITED STATES) Dec 1990, 27 (4) p633-41, ISSN 0360-4012 Journal Code: KAC Contract/Grant No.: AG 06872, AG, NIA, AG06650, AG, NIA Languages: ENGLISH Document type: JOURNAL ARTICLE

Transferrin (TF), a major plasma protein, binds and transports ferric iron. Evidence exists for unique roles for TF in brain in oligodendrocyte differentiation, myelination and neuronal development. In this study, 5' flanking regions of the TF gene important in regulating gene expression were identified by transfected cell studies and a comparison of 5' flanking sequences of the human TF and TF receptor genes. Human glioma cell lines HTB-16 and HTB-17 were shown to synthesize TF identical in size and immunological reaction to TF synthesized by liver. The expression of a series of human chimeric TF genes in glioma cells was compared with hepatoma and HeLa cells. A difference in transferrin expression was observed in hepatoma and glioma cells transfected with TF chimeric genes containing 3.9 kb of the 5' region, hepatoma cells demonstrated significantly more expression than did glioma cells, suggesting that a DNA region present in the 3.9-kb construct is important either in liver-specific expression or in repression of brain expression, or in both. Smaller constructs containing less than or equal to 0.622 kb of the 5' regulatory region of the TF gene failed to demonstrate cell-specific expression; they were expressed in HeLa cells, a line that does not synthesize TF. High levels of expression of 0.15-kb TF constructs were also observed in hepatoma and glioma cell lines, but not in transgenic mice. Possible explanations of differences observed in expression of shorter TF constructs in vitro and in vivo are discussed.

11/7/8 DIALOG(R)File 155:MEDLINE(R) (c) format only 2000 Dialog Corporation. All rts. reserv.
07343540 90330684

Human transferrin. Expression and iron modulation of chimeric genes in transgenic mice.

Adrian GS; Bowman BH; Herbert DC; Weaker FJ; Adrian EK; Robinson LK; Walter CA; Eddy CA; Riehl R; Pauertstein CJ; et al

Department of Cellular and Structural Biology, University of Texas Health Science Center, San Antonio 78284.

Journal of biological chemistry (UNITED STATES) Aug 5 1990, 265 (22) p13344-50, ISSN 0021-9228 Journal Code: HIV Contrat/Grant No.: AG 06872, AG, NIA; AG 06650, AG, NIA; AG 00165, AG, NIA; + Languages: ENGLISH Document type: JOURNAL ARTICLE

Transferrin (TF) is a plasma protein that transports and is regulated by iron. The aim of this study was to characterize human TF gene sequences that respond in vivo to cellular signals affecting expression in various tissues and iron administration. Chimeric genes were constructed containing 152, 1112 and 1152 base pairs (bp) of the human TF5'-flanking region with the coding region of a reporter gene, CAT (chloramphenicol acetyltransferase), and introduced into the germ line of mice. Transgenes containing TF 5'-flanking sequences to -152 bp were expressed poorly in all tissues examined. In contrast, transgenes containing TF sequences to -622 or -1152 bp were expressed at high levels in brain and liver; greater than or equal to 1000-fold higher than tissues such as heart and testes. Liver and brain are major sites of endogenous TF mRNA synthesis, but liver mRNA levels are 10-fold higher than brain. A significant diminution of CAT enzymatic activity in liver accompanied iron administration in both TF(0.67) and TF(1.2)CAT transgenic mice, mimicking the decrease of transferrin in humans following iron overload. Levels of endogenous plasma transferrin also decreased in iron-treated transgenic mice. Transgenic mouse lines carrying human TF chimeric genes will be useful models for analyzing the regulation of human transferrin by iron and for determining the molecular basis of transferrin regulation throughout mammalian development into the aging process.

11/7/9 DIALOG(R)File 155:MEDLINE(R) (c) format only 2000 Dialog Corporation. All rts. reserv.
07343450 90329224

Expression of chimeric human transferrin genes in transfected human tumor lines.

Adrian GS; Fischbach K; Lu Y; Gayet O; Rivera E; Bowman BH
Department of Cellular & Structural Biology, University of Texas Health Science Center, San Antonio 78284.

SAAS bulletin, biochemistry and biotechnology (UNITED STATES) Jan 1990, 3 p97-101, Journal Code: ALK Contrat/Grant No.: AG06872, AG, NIA Languages: ENGLISH Document type: JOURNAL ARTICLE

The iron-binding plasma protein transferrin (TF) is essential for supplying iron to cells and the prevention of iron toxicity. Our laboratory has cloned and characterized the human TF gene. Comparison of promoter regions of TF genes from human, chicken, and mouse reveals a strong nucleotide sequence conservation. This study demonstrates that 5' flanking regions of the TF gene are sufficient for directing expression of a heterologous gene in transgenic mice and transfected cells. For cell-specific expression, more than 150 base pairs appear to be required.

12/6/1 10517355 20391205
Targeted delivery of plasmid DNA to myogenic cells via transferrin-conjugated peptide nucleic acid. Mar 2000

12/6/2 0999651 6 99270378
Construction and in vitro functional evaluation of a low-density lipoprotein receptor/transferrin fusion protein as a therapeutic tool for familial hypercholesterolemia [see comments] May 1 1999

12/6/3 09179445 97331419
Production of PCR mimics for any semiquantitative PCR application [published erratum appears in Biotechniques 1997 Oct;23(4):672] Jun 1997

12/6/4 09031074 96294804

Role of catechol siderophore synthesis in *Vibrio vulnificus* virulence. Jul 1996

12/6/5 04609742 84167844

[Cloning of double-stranded DNA--a transcript of rat transferrin mRNA] Klonirovanie dvunitevoi DNK--transkripta mRNA transferrina krysy. Jan-Feb 1984

12/6/6 04147103 84194084

Human transferrin: cDNA characterization and chromosomal localization. May 1984

12/6/7 0413124 85052479

[Mapping of the transferrin gene in laboratory rats, mice and man by direct in situ hybridization] Kartirovanie gena transferrina u laboratornykh kry's, myshel i cheloveka metodom priamoi gibrizatsii in situ. Oct 1984

12/7/5 DIALOG(R)File 155:MEDLINE(R) (c) format only 2000 Dialog Corporation. All rts. reserv.
04609742 84167844

[Cloning of double-stranded DNA--a transcript of rat transferrin mRNA] Klonirovanie dvunitevoi DNK--transkripta mRNA transferrina krysy. Ryakov AP; Timchenko NA; Timchenko LT; Salikhov TA; Galitsokhi VS; Molekuliamaia biologiya (USSR) Jan-Feb 1984, 18 (1) p104-14, ISSN 0026-8984 Journal Code: NGX Languages: RUSSIAN Summary Languages: ENGLISH Document type: JOURNAL ARTICLE ; English Abstract

Two-stage synthesis of double-stranded DNA was performed using purified rat transferrin mRNA as a template, reverse transcriptase and DNA polymerase I. Double-stranded transcripts of transferrin mRNA were cloned as recombinant plasmid derivatives of pBR322. The insert length in these plasmids varied from 150 to 1500 bp. Clones carrying transferrin mRNA sequences were identified using colony hybridization and Southern blot hybridization with 32P-cDNA probe. Nick-translated DNAs from transformed clones hybridized with a single component of rat liver polyosomal RNA that corresponded to transferrin mRNA in its molecular weight (0.86 MD). In hybridization selection cell-free translation test cloned plasmid DNAs hybridized specifically with rat liver poly(A)+-RNA that programmed the cell-free synthesis of a polypeptide identical to pretransferrin in antigenic properties and molecular weight.

12/7/6 DIALOG(R)File 155:MEDLINE(R) (c) format only 2000 Dialog Corporation. All rts. reserv.
04147103 84194084

Human transferrin: cDNA characterization and chromosomal localization. Yang F; Lum JB; McGill JR; Moore CM; Naylor SL; van Bragt PH; Baldwin WD; Bowman BH
Proceedings of the National Academy of Sciences of the United States of America (UNITED STATES) May 1984, 81 (9) p2752-6, ISSN 0027-8424 Journal Code: PV3 Contrat/Grant No.: HD16584, HD, NICHD; GM33298, GM, NIGMS Languages: ENGLISH Document type: JOURNAL ARTICLE

Transferrin (TF) is the major iron binding protein in vertebrate serum. It shares homologous amino acid sequences with four other proteins: lactotransferrin, ovotransferrin, melanoma antigen p97, and HuBlym-1. Antigen p97 and the Tf receptor genes have been mapped on human chromosome 3. The goal of the study described here was to initiate the characterization of the Tf gene by identifying and characterizing its cDNA and mapping its chromosomal location. Recombinant plasmids containing human cDNA encoding Tf have been isolated by screening an adult human liver library with a mixed oligonucleotide probe. Within the 2.3 kilobase pairs of Tf cDNA analyzed, there is a probable leader sequence encoded by

57 nucleotides followed by 2037 nucleotides that encode the homologous amino and carboxyl domains. During evolution, three areas of the homologous amino and carboxyl domains have been strongly conserved, possibly reflecting functional constraints associated with iron binding. Chromosomal mapping by in situ hybridization and somatic cell hybrid analysis indicate that the Tf gene is located at q21-25 on human chromosome 3, consistent with linkage of the Tf, Tf receptor, and melanoma p97 loci.

12/7/7 DIALOG(R)File 155:MEDLINE(R) (c) format only 2000 Dialog Corporation. All rts. reserv.
0413124 85052479

[Mapping of the transferrin gene in laboratory rats, mice and man by direct in situ hybridization] Kartirovanie gena transferrina u laboratornykh kry's, myshel i cheloveka metodom priamoi gibrizatsii in situ. Baranov VS; Shvartsman AL; Gorbunova VN; Ryakov AP; Timchenko NA; Genetika (USSR) Oct 1984, 20 (10) p1584-93, ISSN 0016-6758 Journal Code: FNN

Languages: RUSSIAN Summary Languages: ENGLISH Document type: JOURNAL ARTICLE ; English Abstract
Mapping of the gene coding for transferrin was carried out in metaphase chromosomes from bone marrow of laboratory mice and rats as well as from PHA-stimulated human lymphocytes using direct in situ hybridization technique. Plasmid pRT-17 carrying the insert of rat transferrin cDNA was nick-translated with [125I]dCTP and used as a specific hybridization probe. The total number of silver grains and their distribution along differentially stained chromosomes were determined in 464 metaphase plates (114, 263 and 87 from rat, mouse and man, respectively). The data obtained enable us to assign transferrin gene to chromosome 3 in human and chromosome 9 in mouse. For the first time, the rat transferrin gene was localized on chromosome 7. The most probable sites of transferrin gene localization are 7q31-34, 9p1-3 and 3q21 in rat, mouse and human chromosomes, respectively.

13/6/1 10593285 20480662

In vivo gene delivery to tumor cells by transferrin-streptavidin-DNA conjugate. Oct 2000

13/6/2 10534035 20402371

Rab11b is essential for recycling of transferrin to the plasma membrane. Aug 25 2000

13/6/3 10403053 20213478

Efficient in vitro transfection of human keratinocytes with an adenovirus-enhanced receptor-mediated system. Apr 2000

13/6/4 10338487 20148978

Subcellular redistribution of P1-2 (P1) transporter/amphotropic leukemia virus (A-MuLV) receptor in A-MuLV-injected NIH 3T3 fibroblasts: involvement in superinfection interference. Mar 2000

13/6/5 10291244 20141825

Effects of epidermal growth factor, transferrin, and insulin on lipofection efficiency in human lung carcinoma cells. Jan 2000

13/6/6 10238549 20037736

Transferrin receptor overexpression enhances transferrin responsiveness and the metastatic growth of a rat mammary adenocarcinoma cell line. Aug 1999

13/6/7 10115974 99007193

Overexpression of the ARF1 exchange factor ARNO inhibits the early secretory pathway and causes the disassembly of the Golgi complex. Nov 1998

13/6/8 10026893 99355168

Enhancement of polylysine-mediated transfection by nuclear localization sequences: polylysine does not function as a nuclear localization sequence. Jul 1 1999

13/6/9 09965849 99296401
Differential behaviour of lipid based and polycation based gene transfer systems in transfecting primary human fibroblasts: a potential role of polylysine in nuclear transport. Jun 28 1999
13/6/10 09951807 99193958
Engineering receptor-mediated cytotoxicity into human ribonucleases by steric blockade of inhibitor interaction [see comments] Mar 1999
13/6/11 09790831 99129210
The size of DNA/transferrin-PEI complexes is an important factor for gene expression in cultured cells. Oct 1998
13/6/12 09579345 98303048
Gene transfer into rat heart-derived endothelial cells. Apr 1998
13/6/13 08724449 96243174
Transferrin receptor-independent uptake of differic transferrin by human hepatoma with antisense inhibition of receptor expression. Jun 1996
13/6/14 08643976 96203955
Mutations in the cytoplasmic domain of the integrin β 1 chain indicate a role for endocytosis factors in bacterial internalization. Mar 29 1996
13/6/15 08576300 95291678
Further studies on largesd DNA transfer to cells using a highly efficient delivery system of biotinylated transferrin and biotinylated polylysine complexed to streptavidin. 1995
13/6/16 08319179 95309174
Characterization of newly established testicular peritubular and prostatic stromal cell lines: potential use in the study of mesenchymal-epithelial interactions. Jul 1995
13/6/17 08238012 95122214
Utilization of transferrin-bound iron by Haemophilus influenzae requires an intact tonB gene. Feb 1995
13/6/18 08141498 95226523
High-efficiency gene transfer to autologous rabbit jugular vein grafts using adenovirus-transferrin/polylysine-DNA complexes. Dec 1994
13/6/19 08038535 95036247
Regulation of protein kinase C (PKC) expression by iron: effect of different iron compounds on PKC- β and PKC- α gene expression and role of the 5'-flanking region of the PKC- β gene in the response to ferric transferrin. Nov 15 1994
13/6/20 07755522 94348791
Studies on the transfer of DNA into cells through use of avidin-polylysine conjugates complexed to biotinylated transferrin and DNA. 1993
13/6/21 07628606 93233496
Receptor-mediated transport of DNA into eukaryotic cells. 1993
13/6/22 07534883 93239255
Presence of a capsule in *Vibrio vulnificus* biotype 2 and its relationship to virulence for cells. May 1993
13/6/23 07463162 92114791
Pseudomonas aeruginosa LasB mutant constructed by insertional mutagenesis reveals elastolytic activity due to alkaline proteinase and the LasA fragment. Sep 1991
13/6/24 07438174 90239023
Transferrin-polycation conjugates as carriers for DNA uptake into cells. May 1990
13/6/25 07325976 92390364
Influenza virus hemagglutinin HA-2 N-terminal fusogenic peptides augment gene transfer by transferrin-polylysine-DNA complexes: toward a synthetic virus-like gene-transfer vehicle. Sep 1 1992

13/6/26 07301624 90323578
[A new expressible VH-gene of the 36-40 family participates in the biosynthesis of antibodies against swine transferrin] Novyi ekspressiruemyi VH-gen semeistra 36-40 uchastvuet v biosintezе antitel protiv svynogo transferrina. Apr 1990
13/6/27 06699849 92172460
Gene transfer to respiratory epithelial cells via the receptor-mediated endocytosis pathway. Mar 1992
13/6/28 06870529 92174016
Maintenance of liver function in long term culture of hepatocytes following in vitro or in vivo Ha-raeJ transfection. Oct 1991
13/6/29 06784944 92007084
[Synthesis of recombinant antibodies (mouse/human) in lymphoid and nonlymphoid cells] Sintez rekombinirannykh antitel (mys'h/chelovek) v limfoidnykh i nelimfoidnykh kletkakh. 1991
13/6/30 06393628 90251615
Receptor-mediated endocytosis of transferrin-polycation conjugates: an efficient way to introduce DNA into hematopoietic cells. May 1990
13/6/31 06040965 86300634
The transmembrane segment of the human transferrin receptor functions as a signal peptide. Jul 1986
13/6/32 06028481 86100466
Regional localization of the human transferrin receptor gene to 3q26.2----qter. Nov 1985
13/6/33 05336791 88269003
The preparation of poly (dT)⁺-5'-transferrin conjugates and hybridisation studies with poly (dA)⁺-tailed linearised pBR322 plasmid DNA. Jun 15 1988
13/6/34 05239830 87082272
Presence and expression of aerobactin genes in virulent avian strains of Escherichia coli. Jan 1987
13/6/35 04896266 86186919
Binding of DNA to albumin and transferrin modified by treatment with water-soluble carbodiimides. Apr 15 1986
13/6/36 04526069 81046769
Regulation of gene transcription by estrogen and progesterone. Lack of hormonal effects on transcription by Escherichia coli RNA polymerase. Oct 25 1980
13/6/37 04369330 84131938
Isolation of cDNA clones for the human transferrin receptor. 1983
13/6/38 04347893 83101321
Aerobactin-mediated utilization of transferrin iron. Dec 7 1982
13/6/39 03829402 82006473
Ability of Neisseria gonorrhoeae, Neisseria meningitidis, and commensal Neisseria species to obtain iron from transferrin and iron compounds. Aug 1981
13/6/40 03290767 80165524
A plasmid associated with virulence in the marine fish pathogen Vibrio anguillarum specifies an iron-sequestering system. Apr 10 1980
13/6/41 03275700 80072071
Transferrin gene expression. Regulation of mRNA transcription in chick liver by steroid hormones and iron deficiency. Jan 10 1980
13/6/42 02972900 80114555
Novel iron uptake system specified by ColV plasmids: an important component in the virulence of invasive strains of Escherichia coli. Dec 1979
13/7 /41 DIALOG(R)File 155:MEDLINE(R) (c) format only 2000 Dialog Corporation. All rts. reserv.

03275700 80072071
Transferrin gene expression. Regulation of mRNA transcription in chick liver by steroid hormones and iron deficiency.
McKnight GS; Lee DC; Palmiter RD
Journal of biological chemistry (UNITED STATES) Jan 10 1980; 255 (1) p148-53; ISSN 0021-9258 Journal Code: HIV Languages: ENGLISH Document type: JOURNAL ARTICLE

27Apr-01 11:05:40 User208600 Session D1390.2
File 5:BIOSIS Previews(R) 1969-2001/Apr W4 (c) 2001 BIOSIS

Set	Items	Description
S1	18786	TRANSFERRIN
S2	766912	PLASMID? OR EXPRESS?
S3	2995	S1 AND S2
S4	1267	S3 NOT PY=(1992 OR 1993 OR 1994 OR 1995 OR 1996 OR 1997 OR
		1998 OR 1999 OR 2000 OR 2001)
S5	338	S4 NOT RECEPTOR?
S6	6852	TRANSFERRIN/TI
S7	93	S5 AND S6
S8	71493	PLASMID?
S9	13	S6 AND S8 NOT PY=(1992 OR 1993 OR 1994 OR 1995 OR 1997 OR
		1997 OR
S10	38	S1 NOT S6 AND PLASMID? NOT RECEPTOR
		1997 OR 1998 OR 1999 OR 2000 OR 2001)

07997033 BIOSIS NO.: 000093052706
CHARACTERIZATION OF THE ACTIVE PART OF THE HUMAN TRANSFERRIN GENE ENHANCER AND PURIFICATION OF TWO LIVER NUCLEAR FACTORS INTERACTING WITH THE TGTTCG MOTIF PRESENT IN THIS REGION 1991
716/2 07945448 BIOSIS NO.: 000093024546
EXPRESSION AND INITIAL CHARACTERIZATION OF FIVE SITE-DIRECTED MUTANTS OF THE AMINO TERMINAL HALF-MOLECULE OF HUMAN TRANSFERRIN 1991
716/3 07853913 BIOSIS NO.: 000041103534
HUMAN TRANSFERRIN EXPRESSION OF CHIMERIC GENES IN TRANSGENIC MICE 1991
716/4 07794723 BIOSIS NO.: 000092087294
DISTURBANCES IN THE EXPRESSION OF GENES DETERMINING TRANSFERRIN POLYMORPHISM IN CARP CYPRINUS-CARPIO L 1990 1991
716/5 07746811 BIOSIS NO.: 000092060532
TRANSFERRIN-DIRECTED AND ALBUMIN-DIRECTED EXPRESSION OF GROWTH-RELATED PEPTIDES IN TRANSGENIC SHEEP 1991
716/6 07727807 BIOSIS NO.: 000092052438
EXPRESSION OF TRANSFERRIN MESSENGER RNA IN THE CNS OF NORMAL AND JMNPY MICE 1991
716/7 07726266 BIOSIS NO.: 000092050897
IMMUNOCYTOCHEMICAL LOCALIZATION OF ALBUMIN TRANSFERRIN ANGIOGENIN AND KININOGEN DURING THE INITIAL STAGES OF THE RAT LIVER DIFFERENTIATION 1991
716/8 07681906 BIOSIS NO.: 000092028827
SERIOLI CELL-SPECIFIC EXPRESSION OF THE HUMAN TRANSFERRIN GENE COMPARISON WITH THE LIVER-SPECIFIC EXPRESSION 1991
716/9 07681904 BIOSIS NO.: 000092028825

THE ENHANCER OF THE HUMAN TRANSFERRIN GENE IS ORGANIZED IN TWO STRUCTURAL AND FUNCTIONAL DOMAINS 1991

7/6/10 07634169 BIOSIS NO.: 000092004113
THE DISTRIBUTION OF CEREBRAL EXPRESSION OF THE TRANSFERRIN GENE IS SPECIES SPECIFIC 1991

7/6/11 07623294 BIOSIS NO.: 000040123503
CEREBELLAR DEVELOPMENTAL ALTERATION IN APO E AND TRANSFERRIN GENE EXPRESSION IN PTU-TREATED HYPOTHYROID RATS 1991

7/6/12 07591911 BIOSIS NO.: 000091120700
THE RELEASE OF IRON AND TRANSFERRIN FROM THE HUMAN MELANOMA CELL 1991

7/6/13 07543427 BIOSIS NO.: 000091095505
A TRANSFERRIN-LIKE HEMIFERRIN MESSENGER RNA IS EXPRESSED IN TUBULEM CELLS OF RAT TESTIS 1991

7/6/14 07519566 BIOSIS NO.: 000091082695
FETAL ALCOHOL DELAYS THE DEVELOPMENTAL EXPRESSION OF MYELIN BASIC PROTEIN AND TRANSFERRIN IN RAT PBLMARY OLIGODENDROCYTE CULTURES 1991

7/6/15 07505259 BIOSIS NO.: 000091079128
VARIATIONS IN THE LEVEL OF TRANSFERRIN AND SGP-2 MESSENGER RNA IN SERTOLI CELLS OF VITAMIN A-DEFICIENT RATS 1991

7/6/16 07432578 BIOSIS NO.: 000091038567
TISSUE SPECIFIC EXPRESSION OF MOUSE TRANSFERRIN DURING DEVELOPMENT AND AGING 1990

7/6/17 07423147 BIOSIS NO.: 000091029136
FERRITIN AND TRANSFERRIN LEVELS IN HUMAN BREAST CYST FLUIDS RELATIONSHIP WITH INTRACYSTIC ELECTROLYTE CONCENTRATIONS 1990

7/6/18 07371665 BIOSIS NO.: 0000911004345
THE BINDING SITE FOR THE LIVER-SPECIFIC TRANSCRIPTION FACTOR TF-LF1 AND THE TATA BOX OF THE HUMAN TRANSFERRIN GENE PROMOTER ARE THE ONLY ELEMENTS NECESSARY TO DIRECT LIVER-SPECIFIC TRANSCRIPTION IN-VITRO 1990

7/6/19 073717375 BIOSIS NO.: 0000911004005
NEW EXPRESSIBLE V-H-GENE OF THE 36-60 FAMILY PARTICIPATES IN BIOSYNTHESIS OF ANTIBODIES AGAINST PIG TRANSFERRIN 1990

7/6/20 07319017 BIOSIS NO.: 000090908917
HUMAN TRANSFERRIN EXPRESSION AND IRON MODULATION OF CHIMERIC GENES IN TRANSGENIC MICE 1990

7/6/21 07278668 BIOSIS NO.: 000090058355
MODULATORS OF MACROPHAGE TRANSFERRIN OR TRANSFERRIN-LIKE PROTEIN 1990

7/6/22 07270806 BIOSIS NO.: 000090050685
PERCENT TRANSFERRIN SATURATION IN SEGREGATING HEMOCHROMATOSIS 1990

7/6/23 07259340 BIOSIS NO.: 000090039216
TRANSFERRIN-GENE EXPRESSION IN THE RAT MAMMARY GLAND INDEPENDENCE OF MATERNAL IRON STATUS 1990

7/6/24 07259330 BIOSIS NO.: 000090039206
LOCALIZATION OF TRANSFERRIN MESSENGER RNA IN RAT BY DNA RNA HYBRIDIZATION 1989

7/6/25 07235237 BIOSIS NO.: 000090015110

TRANSFERRIN GENE EXPRESSION AND SECRETION BY RAT BRAIN CELLS IN-VITRO 1990

7/6/26 07145418 BIOSIS NO.: 000038023463
THE STRUCTURE OF THE EXPRESSIBLE VH GENE FROM A HYBRIDOMA PRODUCING MONOCLONAL ANTIBODIES AGAINST PORCINE TRANSFERRIN 1989

7/6/27 07115437 BIOSIS NO.: 000039052131
EXPRESSION OF HUMAN CHIMERIC TRANSFERRIN GENES 1990

7/6/28 07069370 BIOSIS NO.: 000039006063
REGULATION OF TRANSFERRIN GENE EXPRESSION IN TRANSGENIC MICE 1990

7/6/29 06988486 BIOSIS NO.: 000089089750
EXPRESSION OF THE AMINO-TERMINAL HALF-MOLECULE OF HUMAN SERUM TRANSFERRIN IN CULTURED CELLS AND CHARACTERIZATION OF THE RECOMBINANT PROTEIN 1990

7/6/30 06973029 BIOSIS NO.: 000089084789
EXPRESSION OF TRANSFERRIN AND VITAMIN D-BINDING PROTEIN GENES IN AN OSTEOGENIC SARCOMA CELL LINE 1990

7/6/31 06889548 BIOSIS NO.: 000089043477
PULMONARY TRANSVASCULAR FLUX OF TRANSFERRIN 1989

7/6/32 06865305 BIOSIS NO.: 000089014895
EXPRESSION FROM THE TRANSFERRIN GENE PROMOTER IN TRANSGENIC MICE 1989

7/6/33 06809841 BIOSIS NO.: 000088119283
SEGREGATION OF GENETIC HEMOCHROMATOSIS INDEXED BY LATENT CAPACITY OF TRANSFERRIN 1989

7/6/34 06768565 BIOSIS NO.: 000088077998
IDENTIFICATION OF THE TRANSFERRIN AND LACTOFERRIN-BINDING PROTEINS IN HAEMOPHILUS-INFLUENZAE 1989

7/6/35 06762094 BIOSIS NO.: 000088071527
EFFECTS OF IRON OVERLOAD ON TRANSFERRIN SECRETION BY CULTURED FETAL RAT HEPATOCYTES 1989

7/6/36 06728285 BIOSIS NO.: 000088037711
TRANSFERRIN GENE EXPRESSION AND SYNTHESIS BY CULTURED CHOROIO PLEXUS EPITHELIAL CELLS REGULATION BY SEROTONIN AND CYCLIC AMP 1989

7/6/37 06727198 BIOSIS NO.: 000088036624
REGULATION OF SERTOLI CELL DIFFERENTIATED FUNCTION TESTICULAR TRANSFERRIN AND ANDROGEN-BINDING PROTEIN EXPRESSION 1989

7/6/38 06705791 BIOSIS NO.: 000088015209
CELL TYPE-SPECIFIC EXPRESSION OF THE HUMAN TRANSFERRIN GENE ROLE OF PROMOTER NEGATIVE AND ENHANCER ELEMENTS 1989

7/6/39 06620121 BIOSIS NO.: 000087062283
MYELIN BASIC PROTEIN AND TRANSFERRIN CHARACTERIZE DIFFERENT SUBPOPULATIONS OF OLIGODENDROCYTES IN RAT PRIMARY GLIAL CULTURES 1988

7/6/40 06447564 BIOSIS NO.: 000037019575
THE REGULATION OF EXPRESSION OF THE TRANSFERRIN GENE IN BRAIN-DERIVED CELL LINES 1989

7/6/41 06365800 BIOSIS NO.: 000036068933
TRANSFERRIN EVOLUTION AND GENETIC REGULATION OF EXPRESSION 1988

7/6/42 06330851 BIOSIS NO.: 000036034004
EXPRESSION OF THE TRANSFERRIN TF GENE IN TRANSGENIC MICE 1988

7/6/43 06264134 BIOSIS NO.: 000086098317
VARIATION OF TRANSFERRIN AND ESTERASE IN SERA OF DOGS 1987

7/6/44 06246102 BIOSIS NO.: 000086080284
INTERACTIONS OF DNA-BINDING PROTEINS WITH THE 5' REGION OF THE HUMAN TRANSFERRIN GENE 1988

7/6/45 06235208 BIOSIS NO.: 000086069390
THE PREPARATION OF POLY-DT-5'-TRANSFERRIN CONJUGATES AND HYBRIDIZATION STUDIES WITH POLY-DA-TAILED LINEARIZED PBR322 PLASMID DNA 1988

7/6/46 06227518 BIOSIS NO.: 000086061700
TRANSFERRIN AN EARLY MARKER OF OLIGODENDROCYTES IN CULTURE 1988

7/6/47 06190720 BIOSIS NO.: 000086024902
TRANSFERRIN SECRETION AND HEPATOCYTE PLOIDY ANALYSIS AT THE SINGLE CELL LEVEL USING A SEMI-AUTOMATIC IMAGE ANALYSIS METHOD 1988

7/6/48 06094245 BIOSIS NO.: 000085057394
TRANSFERRIN MESSENGER RNA LEVEL IN THE MOUSE MAMMARY GLAND IS REGULATED BY PREGNANCY AND EXTRACELLULAR MATRIX 1987

7/6/49 06039094 BIOSIS NO.: 000085002243
MODULATION OF A FETOPROTEIN ALBUMIN AND TRANSFERRIN GENE EXPRESSION BY CELLULAR INTERACTIONS AND DEXAMETHASONE IN COCULTURES OF FETAL RAT HEPATOCYTES 1987

7/6/50 06015917 BIOSIS NO.: 000035107280
EFFECTS OF FE OR TRANSFERRIN TF DEPRIVATION ON HUMAN LEUKEMIA CELL GENE EXPRESSION 1988

7/6/51 06012387 BIOSIS NO.: 000035103750
LEVELS OF TRANSFERRIN IN SEMINIFEROUS TUBULES OF STAGE SYNCHRONIZED TESTES 1988

7/6/52 05991388 BIOSIS NO.: 000035082751
ANALYSIS OF REGULATORY ELEMENTS FOR THE TISSUE SPECIFIC EXPRESSION OF THE MOUSE TRANSFERRIN GENE 1988

7/6/53 05849292 BIOSIS NO.: 000034072441
HUMAN MACROPHAGE MATURATION IN-VITRO EXPRESSION OF FUNCTIONAL TRANSFERRIN BINDING SITES OF HIGH AFFINITY 1987

7/6/54 05848072 BIOSIS NO.: 000034071221
EXPRESSION OF GENES ENCODING THE VITAMIN D BINDING PROTEIN AND TRANSFERRIN 1987

7/6/55 05810440 BIOSIS NO.: 000034033589
CLONING AND STUDY OF THE TRANSFERRIN GENE IN MOUSE 1987

7/6/56 05807985 BIOSIS NO.: 000034031134
EXPRESSION OF THE HUMAN TRANSFERRIN TF GENE 1987

7/6/57 05807905 BIOSIS NO.: 000034031054
HUMAN LACTOTRANSFERRIN GENE LOCALIZES TO 3Q21-23 A REGION CONTAINING TRANSFERRIN-RELATED PROTEINS 1987

7/6/58 05751067 BIOSIS NO.: 000084099474
ACTIVATION OF NEUTROPHIL ALKALINE PHOSPHATASE OF CHRONIC MYELOGENOUS LEUKEMIA IN-VITRO LIQUID CULTURE TRANSFERRIN AS A NAP-ACTIVATING FACTOR 1987

7/6/59 05713727 BIOSIS NO.: 000084062133

DESIALYLATED TRANSFERRIN AS A SEROLOGICAL MARKER OF CHRONIC EXCESSIVE ALCOHOL INGESTION 1987

7/6/60 05686958 BIOSIS NO.: 000084035363
TRANSFERRIN GENE EXPRESSION IN CHOROID PLEXUS OF THE ADULT RAT BRAIN 1987

7/6/61 05601989 BIOSIS NO.: 000083075129
TRANSFERRIN MESSENGER RNA MOLECULAR CLONING AND HORMONAL REGULATION IN RAT SERTOLI CELLS 1987

7/6/62 05560305 BIOSIS NO.: 000083033445
CONTRASTING LEVELS OF TRANSFERRIN GENE ACTIVITY IN CULTURED RAT SERTOLI CELLS AND INTACT SEMINIFEROUS TUBULES 1986

7/6/63 05326382 BIOSIS NO.: 000032049511

IN-VIVO VARIATIONS IN THE LEVEL OF TRANSFERRIN AND SGP-2 MESSENGER RNA IN SERTOLI CELLS FROM VITAMIN A DEFICIENT RATS REJECTED BY IN-SITU HYBRIDIZATION 1986

7/6/64 05308267 BIOSIS NO.: 000032031396
HUMAN TRANSFERRIN TF GENE CONSERVED 5' SEQUENCES AND IN-VITRO EXPRESSION 1986

7/6/65 05203380 BIOSIS NO.: 000082044002
RAT TRANSFERRIN GENE EXPRESSION TISSUE-SPECIFIC REGULATION BY IRON DEFICIENCY 1986

7/6/66 05182601 BIOSIS NO.: 000082023222
BINDING OF DNA TO ALBUMIN AND TRANSFERRIN MODIFIED BY TREATMENT WITH WATER-SOLUBLE CARBODIIMIDES 1986

7/6/67 05162883 BIOSIS NO.: 000082003504
ESTROGEN REGULATION OF THE AVIAN TRANSFERRIN GENE IN TRANSGENIC MICE 1986

7/6/68 05114518 BIOSIS NO.: 000081072642
ACTIVITIES DERIVED FROM ESTABLISHED HUMAN MYELOID CELL LINES REVERSE THE SUPPRESSION OF CELL LINE COLONY FORMATION BY LACTOFERRIN AND TRANSFERRIN 1986

7/6/69 05073284 BIOSIS NO.: 000081031408
A STUDY OF THE MICROHETEROGENEITY OF TRANSFERRIN IN RHODOTIC PATIENTS 1985

7/6/70 05065078 BIOSIS NO.: 000081023302
TRANSFERRIN GENE EXPRESSION VISUALIZED IN OLIGODENDROCYTES OF THE RAT BRAIN BY USING IN-SITU HYBRIDIZATION AND IMMUNOHISTOCHEMISTRY 1985

7/6/71 05054557 BIOSIS NO.: 000081003681
A STUDY OF THE TRANSFERRIN AND HEMOGLOBIN POLYMORPHIC SYSTEMS IN THE LOCAL DUBENSKO SHEEP VARIETY 1985

7/6/72 04988436 BIOSIS NO.: 000031063568
TRANSFERRIN GENE EXPRESSION VISUALIZED IN SERTOLI CELLS OF THE RAT BY USING IN-SITU HYBRIDIZATION 1986

7/6/73 04756860 BIOSIS NO.: 000080059987
A-1-ANTITRYPsin TRANSFERRIN ALKALINE PHOSPHATASE PHOSPHOHEXOSE ISOMERASE AND GAMMA GLUTAMYLTRANSFERASE IN BREAST CYST FLUID 1985

7/6/74 04712089 BIOSIS NO.: 000080015215
HIGH PREALBUMIN AND TRANSFERRIN MESSENGER RNA LEVELS IN THE CHOROID PLEXUS OF RAT BRAIN 1985

7/6/75 04663668 BIOSIS NO.: 000079076705

MAPPING OF THE TRANSFERRIN GENE IN LABORATORY RATS AND MICE AS WELL AS IN MAN BY DIRECT IN-SITU HYBRIDIZATION 1984

7/6/76 04597954 BIOSIS NO.: 000079010991
THE ABILITY OF INTERSPECIES AND INTERSPECIES HYBRID CELLS OF MOUSE HEPATOMA 22A TO SYNTHESIZE SERUM PROTEINS ALBUMIN AND TRANSFERRIN 1984

7/6/77 04531650 BIOSIS NO.: 000029054687
EXPRESSION OF THE GENES OF TRANSFERRIN AND ALDOLASE B DURING DEVELOPMENT OF THE RAT AND THE MOUSE 1984

7/6/78 04361908 BIOSIS NO.: 000078091453
EXPRESSION OF THE TRANSFERRIN GENE DURING DEVELOPMENT OF NONHEPATIC TISSUES HIGH LEVEL OF TRANSFERRIN MESSENGER RNA IN FETAL MUSCLE AND ADULT BRAIN 1984

7/6/79 04313739 BIOSIS NO.: 000078043282
CLONING OF DOUBLE STRANDED DNA TRANSCRIBED FROM RAT TRANSFERRIN MESSENGER RNA 1984

7/6/80 04285730 BIOSIS NO.: 000078015272
PURIFICATION AND CHARACTERIZATION OF TESTICULAR TRANSFERRIN SECRETED BY RAT SERTOLI CELLS 1984

7/6/81 04208930 BIOSIS NO.: 000077034974
EXPRESSION OF THE CHICKEN TRANSFERRIN GENE IN TRANS GENIC MICE 1983

7/6/82 04136239 BIOSIS NO.: 000027045791
IDENTIFICATION CHARACTERIZATION AND MAPPING HUMAN TRANSFERRIN COMPLEMENTARY DNA 1984

7/6/83 03973686 BIOSIS NO.: 000076059252
THERMODYNAMIC BINDING CONSTANTS FOR GALLIUM TRANSFERRIN 1983

7/6/84 03829765 BIOSIS NO.: 000075007838
CORRELATION OF GROWTH RATE WITH CHANGES IN SERUM TRANSFERRIN CONCENTRATIONS IN GROWING BULLS 1982

7/6/85 03633781 BIOSIS NO.: 0000740649358
EXPRESSION OF A HIGH AFFINITY MECHANISM FOR ACQUISITION OF TRANSFERRIN IRON BY NEISSERIA-MENINGITIDIS 1982

7/6/86 03552202 BIOSIS NO.: 000073055283
NATURAL ANTIBODIES AGAINST TUBULIN ACTIN MYO GLOBIN THYRO GLOBULIN FETUIN ALBUMIN AND TRANSFERRIN ARE PRESENT IN NORMAL HUMAN SERA AND MONO CLONAL IMMUNO GLOBULINS FROM MULTIPLE MYELOMA AND WALDENSTROMS MACRO GLOBULINEMIA MAY EXPRESS SIMILAR ANTIBODY SPECIFICITIES 1981

7/6/87 03039988 BIOSIS NO.: 000070065606
TRANSFERRIN CATABOLISM IN MAMMALIAN SPECIES OF DIFFERENT BODY SIZES 1980

7/6/88 02956320 BIOSIS NO.: 000069064438
TRANSFERRIN GENE EXPRESSION REGULATION OF MESSENGER RNA TRANSCRIPTION IN CHICK LIVER BY STEROID HORMONES AND IRON DEFICIENCY 1980

7/6/89 02956319 BIOSIS NO.: 000069064437
TRANSFERRIN GENE EXPRESSION EFFECTS OF NUTRITIONAL IRON DEFICIENCY 1980

7/6/90 02627711 BIOSIS NO.: 000067015771
BEHAVIOR OF MORPHOTIC BLOOD ELEMENTS AND LEVELS OF IRON AND TRANSFERRIN THE BLOOD SERUM OF CALVES EXPERIMENTALLY INFECTED WITH FASCIOLA-HEPATICA TEMATODA 1978

7/6/91 02482152 BIOSIS NO.: 000066064704
THE ACTION OF ESTROGEN AND PROGESTERONE ON THE EXPRESSION OF THE TRANSFERRIN GENE A COMPARISON OF THE RESPONSE IN CHICK LIVER AND OVIDUCT 1978

7/6/92 02355724 BIOSIS NO.: 000065012243
OVO TRANSFERRIN SUBFRACTIONATION DEPENDENT UPON CARBOHYDRATE CHAIN DIFFERENCES 1977

7/6/93 00308946 BIOSIS NO.: 000050123946
ABNORMAL EXPRESSION OF NORMAL TRANSFERRIN ALLELES IN CATTLE 1969

7/7/2 DIALOG(R)File 5: Biosis Previews(R) (c) 2001 BIOSIS. All rights reserved.

07945448 BIOSIS NO.: 000093024546
EXPRESSION AND INITIAL CHARACTERIZATION OF FIVE SITE-DIRECTED MUTANTS OF THE AMINO TERMINAL HALF-MOLECULE OF HUMAN TRANSFERRIN

AUTHOR: WOODWORTH R C; MASON A B; FUNK WD; MACGILLIVRAY RT A

AUTHOR ADDRESS: DEP. BIOCHEM., UNIV. VERMONT COLL. MED., BURLINGTON, VERMONT 05482-0068.
JOURNAL: BIOCHEMISTRY 30 (45), 1991, 10824-10829, 1991, FULL JOURNAL NAME: Biochemistry CODEN: BICHA RECORD TYPE: Abstract LANGUAGE: ENGLISH

ABSTRACT: Five site-directed mutants of the N-terminal half-molecule of human serum transferrin have been expressed in baby hamster kidney cells and purified to homogeneity. Expression levels and overall yields varied considerably from the wild-type protein, depending on the mutant in question. The mutants are D63S, D63C, G65R, K206Q, and H207E and are based on mutations observed in a variety of transferrins of known sequence. Their molecular masses, determined by electrospray mass spectrometry, agree with theory, except for the D63C mutant, which appears to be cysteinylated. All mutants bind iron but with varying affinities: qualitatively, in increasing order D63S, approx. D63C, approx. G65R, methyl. wild type, H207E, methyl. K206Q. In general, reduction of formal negative charge within the binding cleft shifts the visible spectral maximum of the iron complex toward the blue and reduces the affinity for iron, and increasing the formal negative charge shifts the visible maximum toward the red and increases the affinity for iron. The K206Q mutant is exceptional inasmuch as its visible maximum shows a blue shift, but its affinity for iron is the greatest of all of the mutants studied. All mutants reported, in addition to the wild-type protein, exhibit very similar visible molar extinction coefficients for the iron complex and very similar changes in extinction coefficients at 240 nm on binding Fe(III) or Ga(III). These results suggest that in all cases the bound metal ion is coordinated by two tyrosyl side chains.

7/7/3 DIALOG(R)File 5: Biosis Previews(R) (c) 2001 BIOSIS. All rights reserved.

07853913 BIOSIS NO.: 000041103534
HUMAN TRANSFERRIN XPRESSION OF CHIMERIC GENES IN TRANSGENIC MICE

AUTHOR: ADRIAN G S; HERBERT D C; ROBINSON L K; ADRIAN E K; WALTER C A; WEAVER F J; YANG F; BOWMAN B H

AUTHOR ADDRESS: DEP. CELLULAR STRUCTURAL BIOL. UNIV. TEXAS HEALTH SCI. CENTER, 703 FLOYD CURL DR., SAN ANTONIO, TEX. 78284, USA.

JOURNAL: ALBERTINI, A, ET AL. (ED.), CURRENT STUDIES IN HEMATOLOGY AND BLOOD TRANSFUSION, NO. 58.

BIOTECHNOLOGY OF PLASMA PROTEINS: HEMOSTASIS,

THROMBOSIS AND IRON PROTEINS; INTERNATIONAL SYMPOSIUM ON BIOTECHNOLOGY OF PLASMA PROTEINS, FLORENCE, ITALY, APRIL 9-11, 1990. IX+215P. S. KARGER AG: BASEL, SWITZERLAND; NEW YORK, NEW YORK, USA. ILLUS. ISBN 3-8055-5250-5. 0 (0). 1991. 104-108. 1991 CODEN: CSHT E RECORD TYPE: Citation LANGUAGE: ENGLISH

7/7/8 DIALOG(R)File 5: Biosis Previews(R) (c) 2001 BIOSIS. All rts. reserv.

07681906 BIOSIS NO.: 000092028827
SERTOLI CELL-SPECIFIC EXPRESSION OF THE HUMAN TRANSFERRIN GENE COMPARISON WITH THE LIVER-SPECIFIC EXPRESSION

AUTHOR: GUILLOU F; ZAKIN M M; PART D; BOISSIER F; SCHAEFFER E

AUTHOR ADDRESS: LABORATOIRE D'EXPRESSION DES GENE CARYOTES, INSTITUT PASTEUR, 75724 PARIS CEDEX 15, FR. JOURNAL: J BIOL CHEM 266 (15). 1991. 9876-9884. 1991 FULL.

JOURNAL NAME: Journal of Biological Chemistry CODEN: JBCHA RECORD TYPE: Abstract LANGUAGE: ENGLISH

ABSTRACT: We present a comparative study of the cis- and trans-acting elements governing the expression of the human transferrin (Tf) gene in two tissues, liver and testis, where Tf is expressed at various levels. We have previously identified the elements of the promoter, negative, and enhancer regions involved in the liver-specific expression of the gene. By transfection experiments of primary cultured rat Sertoli cells compared with hepatoma cells, DNase I footprinting, and gel retardation studies, we have analyzed 3.6 kilobase pairs of the Tf regulatory region. The far upstream enhancer functional in Hep3B cells is inactive in Sertoli cells; in the two cell types, different nuclear factors appear to bind to a DNA domain crucial for enhancer activity. Similar negative- and positive-acting elements are present in the distal promoter in both tissues. However different combinations of proximal promoter elements control tissue-specific expression. Liver-specific transcription is governed by the interaction of the TF-LF1 protein and a C/EBP-related factor with the -125 to -45 region. In Sertoli cells, a -34 to -18 TAT box-binding factor is sufficient to initiate basal-level transcription. Efficient expression is achieved by the association of two factors binding either to the (-82, -1) or to the (-153, -52) region. The addition of a third adjacent element decreases the promoter activity, suggesting that the balance of three factors binding to the proximal sites regulates testis-specific expression.

7/7/9 DIALOG(R)File 5: Biosis Previews(R) (c) 2001 BIOSIS. All rts. reserv.

07681904 BIOSIS NO.: 000092028825

THE ENHANCER OF THE HUMAN TRANSFERRIN GENE IS ORGANIZED IN TWO STRUCTURAL AND FUNCTIONAL DOMAINS
AUTHOR: BOISSIER F; AUGÉ-GOULLOU C; SCHAEFFER E; ZAKIN M M
AUTHOR ADDRESS: LABORATOIRE D'EXPRESSION DES GENE EUCARYOTES, INSTITUT PASTEUR, 75724 PARIS CEDEX 15, FR. JOURNAL: J BIOL CHEM 266 (15). 1991. 9822-9828. 1991 FULL
JOURNAL NAME: Journal of Biological Chemistry CODEN: JBCHA RECORD TYPE: Abstract LANGUAGE: ENGLISH
ABSTRACT

7/7/18 DIALOG(R)File 5: Biosis Previews(R) (c) 2001 BIOSIS. All rts. reserv.
07377665 BIOSIS NO.: 000091004345

THE BINDING SITE FOR THE LIVER-SPECIFIC TRANSCRIPTION FACTOR TF-LF1 AND THE TATA BOX OF THE HUMAN TRANSFERRIN GENE PROMOTER ARE THE ONLY ELEMENTS NECESSARY TO DIRECT LIVER-SPECIFIC TRANSCRIPTION IN-VITRO

AUTHOR: MENDELZON D; BOISSIER F; ZAKIN M M
AUTHOR ADDRESS: LAB. D'EXPRESSION DES GENES EUCARYOTES, INST. PASTEUR, 28 RUE DU DOCTEUR ROUX, 75724 PARIS CEDEX 15, FRANCE.

JOURNAL: NUCLEIC ACIDS RES 18 (19). 1990. 5717-5722. 1990 FULL
JOURNAL NAME: Nucleic Acids Research CODEN: NARHA RECORD TYPE: Abstract LANGUAGE: ENGLISH

ABSTRACT: We have studied the liver-specific transcriptional activity of the human transferrin gene promoter. Results of competition experiments, site-directed mutagenesis, and 5' deletion analysis have demonstrated that a TATA box and a binding site for the liver-specific protein TF-LF1 are the only elements needed to direct hepatic-specific transcription in vitro. Thus, TF-LF1 behaves as other previously described proteins, HNF-1, DBP and LF-A1, in that it is sufficient to confer liver-specific transcriptional activity to a promoter in vitro. This results contrast with observations made in transient expression experiments, in which TF-LF1 binding alone cannot direct hepatic-specific expression, and the binding of at least one more protein, similar to C/EBP, is needed. Thus, as described for other hepatic genes, the number of elements necessary to confer tissue specificity is different in vivo and in vitro.

7/7/20 DIALOG(R)File 5: Biosis Previews(R) (c) 2001 BIOSIS. All rts. reserv.

07319017 BIOSIS NO.: 000090098917

HUMAN TRANSFERRIN EXPRESSION AND IRON MODULATION OF CHIMERIC GENES IN TRANSGENIC MICE

AUTHOR: ADRIAN G S; BOWMAN B H; HERBERT D C; WEAKER F J; ADRIAN E K; ROBINSON L K; WALTER C A; EDDY C A; RIEHL R; ET AL
AUTHOR ADDRESS: DEP. CELLULAR STRUCTURAL BIOL., UNIVERSITY TEXAS HEALTH SCI. CENTER, SAN ANTONIO, TEXAS 78284.

JOURNAL: J BIOL CHEM 265 (22). 1990. 13344-13350. 1990 FULL
JOURNAL NAME: Journal of Biological Chemistry CODEN: JBCHA RECORD TYPE: Abstract LANGUAGE: ENGLISH

ABSTRACT: Transferrin (Tf) is a plasma protein that transports and is regulated by iron. The aim of this study was to characterize human Tf gene sequences that respond in vivo to cellular signals affecting expression in various tissues and to iron administration. Chimeric genes were constructed containing 152, 622, and 1152 base pairs (bp) of the human Tf 5'-flanking region with the coding region of a reporter gene, CAT (chloramphenicol acetyltransferase), and introduced into the germ line of mice. Transgenes containing Tf 5'-flanking sequences to -152 bp were expressed poorly in all tissues examined. In contrast, transgenes containing Tf sequences to -622 or -1152 bp were expressed at high levels in brain and liver, 1000-fold higher than tissues such as heart and testes. Liver and brain are major sites of endogenous Tf mRNA synthesis, but liver mRNA levels are 10-fold higher than brain. A significant diminution of CAT enzymatic activity in liver accompanied iron administration in both Tf(0.67) and Tf(1.2)CAT transgenic mice, mimicking the decrease of transferrin in humans following iron overload. Levels of endogenous plasma transferrin also decreased in iron-treated transgenic mice. Transgenic mouse lines carrying human Tf chimeric genes will be useful models for analyzing the regulation of human transferrin by iron and for determining the molecular basis of

transferrin regulation throughout mammalian development into the aging process.

7/7/25 DIALOG(R)File 5: Biosis Previews(R) (c) 2001 BIOSIS. All rts. reserv.

07235237 BIOSIS NO.: 000090015110

TRANSFERRIN GENE EXPRESSION AND SECRETION BY RAT BRAIN CELLS IN-VITRO

AUTHOR: ESPINOSA DE LOS MONTEROS A; KUMAR S; SCULLY S; COLE R; DE VELLIS J

AUTHOR ADDRESS: UNIVERSITY CALIFORNIA AT LOS ANGELES, MENTAL RETARDATION RES. CENTER, 760 WESTWOOD PLAZA, ROOM 68-177 NPI, LOS ANGELES, CALIF. 90024.

JOURNAL: J NEUROSCI RES 25 (4). 1990. 576-580. 1990 FULL.

JOURNAL NAME: Journal of Neuroscience Research CODEN: JNRED RECORD TYPE: Abstract LANGUAGE: ENGLISH

ABSTRACT: We have previously shown by immunocytochemistry in rat primary glial cultures that transferrin (Tf) is an early developmental marker for oligodendrocytes. The present work addresses the issue of Tf gene expression and synthesis by neural cells in vitro. For this purpose, we used rat embryonic neuronal cultures and newborn glial cultures of astrocytes and oligodendrocytes. Cultured fibroblasts and C6 glioma cells were used as negative controls. We found that Tf mRNA is present in oligodendrocytes, astrocytes, and neurons. However, oligodendrocytes and astrocytes, but not neurons, were shown to synthesize and secrete Tf. Neither fibroblasts nor C6 glioma cells expressed detectable amounts of Tf mRNA. If mRNA levels in astrocyte cultures appeared to be under hormonal control since hydrocortisone markedly reduced message levels. These results show that both astrocytes and oligodendrocytes can synthesize and secrete Tf under cell culture conditions. However, epigenetic factors, such as hydrocortisone, may repress the expression of Tf in astrocytes in vivo.

7/7/28 DIALOG(R)File 5: Biosis Previews(R) (c) 2001 BIOSIS. All rts. reserv.

07069370 BIOSIS NO.: 000039006063

REGULATION OF TRANSFERRIN GENE EXPRESSION IN TRANSGENIC MICE

AUTHOR: HERBERT D C; SHERIDAN P J; WEAKER F J; WALTER C A; ADRIAN G S; BOWMAN B H

AUTHOR ADDRESS: DEP. CELLULAR STRUCTURAL BIOL., UNIV. TEXAS HEALTH SCI. CENTER, SAN ANTONIO, TEX.

JOURNAL: ONE HUNDRED AND THIRD ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF ANATOMISTS, PHILADELPHIA, PENNSYLVANIA, USA, APRIL 22-25, 1990. ANAT REC 226 (4). 1990. 43A. 1990 CODEN: ANREA DOCUMENT TYPE: Meeting RECORD TYPE: Citation LANGUAGE: ENGLISH

7/7/29 DIALOG(R)File 5: Biosis Previews(R) (c) 2001 BIOSIS. All rts. reserv.

06988486 BIOSIS NO.: 000089089750

EXPRESSION OF THE AMINO-TERMINAL HALF-MOLECULE OF HUMAN SERUM TRANSFERRIN IN CULTURED CELLS AND CHARACTERIZATION OF THE RECOMBINANT PROTEIN

AUTHOR: FUNK W D; MACGILLIVRAY R T A; MASON A B; BROWN S A; WOODWORTH R C

AUTHOR ADDRESS: DEPARTMENT OF BIOCHEMISTRY, UNIVERSITY OF BRITISH COLUMBIA, VANCOUVER, BRITISH COLUMBIA V6T 1W5.

JOURNAL: BIOCHEMISTRY 29 (6). 1990. 1654-1660. 1990 FULL
JOURNAL NAME: Biochemistry

CODEN: BICHA RECORD TYPE: Abstract LANGUAGE: ENGLISH

ABSTRACT: A human liver cDNA library was screened with a synthetic oligonucleotide, complementary to the 5' region of human transferrin mRNA, as a hybridization probe. The full-length human cDNA clone isolated from this screen contained part of the 5' untranslated region, the complete coding region for the signal peptide and the two lobes of transferrin, the 3' untranslated region, and a poly(A) tail. By use of oligonucleotide-directed mutagenesis in vitro, two translational stop codons and a HindIII site were introduced after the codon for Asp-337. This fragment was inserted into two different expression vectors that were then introduced into *Escherichia coli*. As judged by NaDodSO₄-polyacrylamide gel electrophoresis and Western blot analysis, however, recombinant hTF/2N was undetectable in bacteria transformed by these plasmids. Concurrently, we developed a plasmid vector for the expression of recombinant hTF/2N in eukaryotic cells. In this case, a DNA fragment coding for the natural signal sequence, the hTF/2N lobe, and the two stop codons was cloned into the expression vector pNUT, such that the expression of hTF/2N was controlled by the mouse metallothionein promoter and the human growth hormone termination sequences. Baby hamster kidney cells containing this hTF/2N-pNUT plasmid secreted up to 20 mg of recombinant hTF/2N per liter of tissue culture medium. Recombinant hTF/2N was purified from the medium by successive chromatography steps on DEAE-Sephacel, Sephadex G-75, and FPLC on Polyamine SI. The purified protein was characterized by NaDodSO₄-PAGE, urea-PAGE, amino-terminal sequence analysis, UV-visible spectroscopy, iron-binding titration, and proton NMR. By these criteria, the recombinant hTF/2N appeared to behave identically with the proteolytically derived half-molecule, but to show a higher degree of monodispersity than the latter protein. Addition of *m*-fluorotyrosine to the culture medium resulted in random incorporation of this amino acid into cellular protein in lieu of tyrosine. Purified recombinant 19F-1-tyr hTF/2N gave four well-resolved 19F NMR resonances of 20-40 Hz line width, two with suggestions of shoulders.

7/7/30 DIALOG(R)File 5:Biois Previews(R) (c) 2001 BIOSIS. All rights reserved.

06973029 BIOSIS NO.: 000089084789

EXPRESSION OF TRANSFERRIN AND VITAMIN D-BINDING PROTEIN GENES IN AN OSTEOGENIC SARCOMA CELL LINE.

AUTHOR: ADRIAN G. S.; YANG F.; GRAVES D. T.; BUCHANAN J. M.; BOWMAN B. H.

AUTHOR ADDRESS: DEP. CELLULAR STRUCTURAL BIOL., UNIV. TEX. HEALTH SCI. CENT. SAN ANTONIO, TEX. 78284.

JOURNAL: EXP CELL RES 186 (2), 1990, 385-389, 1990 FULL.

JOURNAL NAME: Experimental Cell Research

CODEN: ECREA RECORD TYPE: Abstract LANGUAGE: ENGLISH

ABSTRACT: Expression of genes encoding transferrin and the vitamin D-binding protein is described in a cell line, U-2-OS, derived from a human osteogenic sarcoma. The mRNA transcripts of transferrin and vitamin D-binding protein were shown to be the lengths of those found in normal human liver. The cells synthesize and secrete the transferrin and vitamin D-binding proteins, in addition to human albumin and ceruloplasmin. The U-2-OS cells were successfully transfected with chimeric genes carrying 670 bp of the 5' regulatory sequence of the human transferrin gene fused to a reporter chloramphenicol acetyltransferase gene. These data indicate that the appropriate transcriptional factors required for expression of four plasma proteins are produced by U-2 OS nuclei and that the U-2 OS cell line will be useful for studies analyzing regulation of these genes.

7/7/32 DIALOG(R)File 5:Biois Previews(R) (c) 2001 BIOSIS. All rights reserved.

06865305 BIOSIS NO.: 000089014895

EXPRESSION FROM THE TRANSFERRIN GENE PROMOTER IN TRANSGENIC MICE

AUTHOR: IDZERDA R. L.; BEHRINGER R. R.; THEISEN M.; HUGGENVICK J. J.; MCKNIGHT G. S.; BRINSTER R. L.

AUTHOR ADDRESS: DEP. PHARMACOL, SCH. MED., UNIV. WASHINGTON, SEATTLE, WASHINGTON 98195.

JOURNAL: MOL CELL BIOL 9 (11), 1989, 5154-5162, 1989 FULL.

JOURNAL NAME: Molecular and Cellular Biology CODEN: MCEBD

RECORD TYPE: Abstract LANGUAGE: ENGLISH

ABSTRACT: Transferrin is an iron-binding protein that is expressed as a major product in liver and secreted into the plasma. To study the tissue-specific regulatory regions of this gene, the genomic mouse transferrin (mTf) gene was cloned and characterized by partial sequence analysis and S1 nuclease mapping of the transcriptional start site. Fusion genes containing the transferrin gene promoter and 5'-flanking sequences were ligated to the human growth hormone (hGH) gene and used to produce transgenic mice. A deletion construct containing the -581 to +50 region of the transferrin gene was sufficient to direct a high level of liver-specific expression resembling endogenous transferrin gene expression. Deletion to -139 base pairs of 5'-flanking sequence gave a construct which retained liver specificity, but the magnitude of expression decreased severalfold. These results demonstrate the presence of a liver-specific transcriptional element between -139 and +50 and suggest the presence of a distal element between -581 and -139 that can further increase expression. Surprisingly, fusion constructs containing -3 kilobase pairs (kb) of 5'-flanking sequence gave higher levels of mRNA in nonhepatic tissues than did either the -581 or -139 construct. Further studies indicated that the high levels of circulating hGH in these transgenic mice specifically induced the endogenous transferrin and albumin genes in liver and also stimulated the normally low levels of expression of the endogenous transferrin gene in brain, heart, kidney, and muscle. A mutated hGH gene that does not produce activity growth hormone was fused to the -3- to +50-kb transferrin sequences to produce the -3-kb mTf-hGH construct. A liver-specific pattern of expression was observed in transgenic mice harboring the -3-kb mTf-hGH construct, and this mutated transgene was shown to be induced four- to sevenfold by either bovine or human growth hormone. These results demonstrate the presence of a growth hormone-responsive element between -3- and +50 kb in the 5'-flanking region of the mTf gene promoter.

7/7/36 DIALOG(R)File 5:Biois Previews(R) (c) 2001 BIOSIS. All rights reserved.

06728285 BIOSIS NO.: 000088037711

TRANSFERRIN GENE EXPRESSION AND SYNTHESIS BY CULTURED CHOROID PLEXUS EPITHELIAL CELLS REGULATION BY SEROTONIN AND CYCLIC AMP

AUTHOR: TSUTSUMI M.; SKINNER M. K.; SANDERS-BUSH E.

AUTHOR ADDRESS: DEP. PHARMACOL. AND PSYCHIATRY, VANDERBILT UNIV. SCH. MED., NASHVILLE, TENN. 37232.

JOURNAL: J BIOL CHEM 264 (16), 1989, 9626-9631, 1989 FULL.

JOURNAL NAME: Journal of Biological Chemistry CODEN: JBCHA

RECORD TYPE: Abstract LANGUAGE: ENGLISH

ABSTRACT: Primary cultures of rat choroid plexus epithelial cells were established and used to investigate the role of the choroid plexus in the synthesis and secretion of transferrin. Transferrin gene expression was determined by a Northern blot analysis with a transferrin cRNA probe. A single transferrin mRNA species was detected and found to be the same size as the transcripts in the liver and Sertoli cells. Immunoprecipitation of radiolabeled secreted proteins with an antiserum transferrin antibody demonstrated that cultured choroid plexus epithelial cells synthesize and secrete a 70-kDa species of transferrin. Levels of transferrin secretion by

rat choroid plexus epithelial cells in culture were measured by radioimmunoassay. Treatment of the choroid plexus epithelial cells in culture with cell-permeable cAMP analogs or serotonin led to time- and concentration-dependent changes in the levels of transferrin in the medium. Dibutyl-cAMP and 8-bromo-cAMP decreased the levels of transferrin synthesized and secreted by choroid plexus epithelial cells with an EC₅₀ value of 30 nM. Serotonin, however, increased the levels of transferrin with an EC₅₀ value of 100 nM. A concomitant change in transferrin mRNA concentrations was observed in response to serotonin. These data suggest that the synthesis of transferrin by the choroid plexus is reciprocally regulated by the neurotransmitter serotonin and by regulatory agents coupled to adenylate cyclase. Regulatory agents such as serotonin may have a critical role in modulating the proteins synthesized by the choroid plexus, thereby influencing the composition of the cerebrospinal fluid.

7/7/42 DIALOG(R)File 5:Biois Previews(R) (c) 2001 BIOSIS. All rights reserved.

06330851 BIOSIS NO.: 000036034004

EXPRESSION OF THE TRANSFERRIN TF GENE IN TRANSGENIC MICE

AUTHOR: YANG F.; ADRIAN G. S.; RIEHL R. M.; HERBERT D. C.; WEAKER F. J.; ROBINSON L. K.; EDDY C. A.; PAUBERSTEIN C. J.; BOWMAN B. H.

AUTHOR ADDRESS: UNIV. TEXAS HEALTH SCI. CENT. SAN ANTONIO, TEX. 78284.

JOURNAL: 39TH ANNUAL MEETING OF THE AMERICAN SOCIETY OF HUMAN GENETICS, NEW ORLEANS, LOUISIANA, USA, OCTOBER 12-15, 1988. AM J HUM GENET 43 (3 SUPPL.), 1988. A208, 1988

CODEN: AHGA DOCUMENT TYPE: Meeting RECORD TYPE: Citation LANGUAGE: ENGLISH

7/7/55 DIALOG(R)File 5:Biois Previews(R) (c) 2001 BIOSIS. All rights reserved.

05810440 BIOSIS NO.: 000034033589

CLONING AND STUDY OF THE TRANSFERRIN GENE IN MOUSE

AUTHOR: CRAMATIKAKIS N.; PAPACONSTANTINOU J.

AUTHOR ADDRESS: UNIV. TEXAS MED. BRANCH, GALVESTON, JOURNAL: TWENTY-SEVENTH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR CELL BIOLOGY, ST. LOUIS, MISSOURI, USA, NOVEMBER 16-20, 1987. J CELL BIOL 105 (4 PART 2), 1987. 154A, 1987 CODEN: JCLBA DOCUMENT TYPE: Meeting RECORD TYPE: Citation LANGUAGE: ENGLISH

7/7/56 DIALOG(R)File 5:Biois Previews(R) (c) 2001 BIOSIS. All rights reserved.

05807985 BIOSIS NO.: 000034031134

EXPRESSION OF THE HUMAN TRANSFERRIN TF GENE

AUTHOR: ADRIAN G. S.; YANG F.; BOWMAN B. H.

AUTHOR ADDRESS: UNIV. TEX. HEALTH SCI. CENT. SAN ANTONIO, TEX. 78284.

JOURNAL: 38TH ANNUAL MEETING OF THE AMERICAN SOCIETY OF HUMAN GENETICS, SAN DIEGO, CALIFORNIA, USA, OCTOBER 7-10, 1987. AM J HUM GENET 41 (3 SUPPL.), 1987. A204, 1987

CODEN: AHGA DOCUMENT TYPE: Meeting RECORD TYPE: Citation LANGUAGE: ENGLISH

7/7/64 DIALOG(R)File 5:Biois Previews(R) (c) 2001 BIOSIS. All rights reserved.

05308267 BIOSIS NO.: 000032031396

HUMAN TRANSFERRIN TF GENE CONSERVED 5' SEQUENCES
AND IN-VITRO EXPRESSION
AUTHOR: ADRIAN G S, YANG F, BOWMAN B H
AUTHOR ADDRESS: UNIV. TEX. HEALTH SCI. CENT., SAN
ANTONIO, TEX.
JOURNAL: 37TH ANNUAL MEETING OF THE AMERICAN SOCIETY
OF HUMAN GENETICS, PHILADELPHIA, PA., USA, NOV. 2-5, 1986.
AM J HUM GENET 39 (3 SUPPL.), 1986. A185. 1986
CODEN: AJHG DOCUMENT TYPE: Meeting RECORD TYPE: Citation
LANGUAGE: ENGLISH

7/7/67 DIALOG(R)File 5:Biois Previews(R) (c) 2001 BIOSIS. All rts.
reserv.

05162883 BIOSIS NO.: 000082003504
ESTROGEN REGULATION OF THE AVIAN TRANSFERRIN GENE IN
TRANSGENIC MICE

A. DR. HAMMER R E, IDZERDA R L, BRINSTER R L, MCKNIGHT
G.
AUTHOR ADDRESS: LAB. REPRODUCTIVE PHYSIOL., SCH. VET.
MED, UNIV. PA, PHILADELPHIA, PA. 19104.
JOURNAL: MOL. CELL BIOL. 6 (4) 1986. 1010-1014. 1986 FULL

JOURNAL NAME: Molecular and Cellular Biology CODEN: MCEBD
RECORD TYPE: Abstract LANGUAGE: ENGLISH

ABSTRACT: The intact chicken transferrin genes was microinjected into
fertilized mouse eggs, and the resulting transgenic animals were used to
produce lines of mice containing integrated copies of the chicken gene. The
levels of expression of the chicken gene were quantitated in various
tissues, and the response of the gene to estrogen stimulation was measured
after chronic or acute estrogen exposure. Two of the three mouse lines
studied maintained stable levels in expression in successive generations of
offspring, and the third line had two- to threefold-higher levels in offspring
than in the original parent. In the third-line, the original transgenic parent
was found to be a mosaic. The chicken transferrin gene was expressed at
10- to 20-fold-higher levels in liver than in any tissue; however, the levels
of chicken transferrin mRNA in kidney were higher than expected.

indicating that the tissue specificity was only partial. In all three lines, the
foreign gene was induced by estrogen administration. After 10 days of
estrogen administration, there was a twofold increase in both transferrin
mRNA and transcription of the chicken transferrin gene. A single injection
of estradiol led to a fourfold increase in transferrin mRNA synthesis at 4 h.
As a control the levels of mouse albumin were measured, and both the level
of albumin mRNA and its rate of transcription declined about twofold after
estrogen administration. Our results indicate that the intact chicken gene
with 2.2 kilobases of 5' flanking sequence contains signals for both tissue
specificity and steroid regulation that can be recognized in mice.

9/6/1 10463257 BIOSIS NO.: 199699084402
Transferrin receptor-independent uptake of dietary transferrin by human hepatoma
cells with antisense inhibition of receptor expression. 1996

9/6/2 07248171 BIOSIS NO.: 000090028047
RECEPTOR-MEDIATED ENDOCYTOSIS OF TRANSFERRIN-POLYCATYON
CONJUGATES AN EFFICIENT WAY TO INTRODUCE DNA INTO
HEMATOPOIETIC CELLS 1990

9/6/3 07232817 BIOSIS NO.: 000090012690
TRANSFERRIN-POLYCATYON CONJUGATES AS CARRIERS FOR DNA
UPTAKE INTO CELLS 1990

9/6/4 07115437 BIOSIS NO.: 000039052131
EXPRESSION OF HUMAN CHIMERIC TRANSFERRIN GENES 1990

9/6/5 06988486 BIOSIS NO.: 000089083750

EXPRESSION OF THE AMINO-TERMINAL HALF-MOLECULE OF HUMAN
SERUM TRANSFERRIN IN CULTURED CELLS AND CHARACTERIZATION
OF THE RECOMBINANT PROTEIN 1990

9/6/6 06235208 BIOSIS NO.: 000086069390
THE PREPARATION OF POLY-DT-5'- TRANSFERRIN CONJUGATES AND
HYBRIDIZATION STUDIES WITH POLY-DA-TAILED LINEARIZED PBR322
PLASMID DNA 1988

9/6/7 05182601 BIOSIS NO.: 000082032222
BINDING OF DNA TO ALBUMIN AND TRANSFERRIN MODIFIED BY
TREATMENT WITH WATER-SOLUBLE CARBODIMIDES 1986

9/6/8 04663668 BIOSIS NO.: 000079076705
MAPPING OF THE TRANSFERRIN GENE IN LABORATORY RATS AND MICE
AS WELL AS IN MAN BY DIRECT IN-SITU HYBRIDIZATION 1984

9/6/9 04329766 BIOSIS NO.: 000078059310
HUMAN TRANSFERRIN COMPLEMENTARY DNA CHARACTERIZATION
AND CHROMOSOMAL LOCALIZATION 1984

9/6/10 04313739 BIOSIS NO.: 000078043282
CLONING OF DOUBLE STRANDED DNA TRANSCRIBED FROM RAT
TRANSFERRIN MESSENGER RNA 1984

9/6/11 04241248 BIOSIS NO.: 000077067293
ISOLATION OF COMPLEMENTARY DNA CLONES FOR THE HUMAN
TRANSFERRIN RECEPTOR 1983

9/6/12 04136239 BIOSIS NO.: 000027045791
IDENTIFICATION CHARACTERIZATION AND MAPPING HUMAN
TRANSFERRIN COMPLEMENTARY DNA 1984

9/6/13 03935782 BIOSIS NO.: 000076021348
AEROBACTIN MEDIATED UTILIZATION OF TRANSFERRIN IRON 1982

9/7/4 DIALOG(R)File 5:Biois Previews(R) (c) 2001 BIOSIS. All rts.
reserv.

07115437 BIOSIS NO.: 000039052131

EXPRESSION OF HUMAN CHIMERIC TRANSFERRIN GENES
AUTHOR: ADRIAN G S, RIEHL R, HERBERT D C, WEAKER F J,
ADRIAN E K, ROBINSON L K, WALTER C A, EDDY C A,
PAUERSTEIN C J, ET AL
AUTHOR ADDRESS: DEP. CELL. STRUCT. BIOL., UNIV. TEX.
HEALTH SCI. CENT., SAN ANTONIO, TEX. 78284, USA.
JOURNAL: FNCH, C. E. AND T. E. JOHNSON (ED.), UCLA
(UNIVERSITY OF CALIFORNIA-LOS ANGELES) SYMPOSIA ON
MOLECULAR AND CELLULAR BIOLOGY NEW SERIES, VOL. 123,
MOLECULAR BIOLOGY OF AGING; COLLOQUIUM, SANTE FE,
NEW MEXICO, USA, MARCH 4-10, 1989. XVII+430P. WILEY-LISS:
NEW YORK, NEW YORK, USA, ILLUS. ISBN 0-471-56721-3. 0 (0).

1990. 365-378. 1990 CODEN: USMBD RECORD TYPE: Citation
LANGUAGE: ENGLISH

9/7/5 DIALOG(R)File 5:Biois Previews(R) (c) 2001 BIOSIS. All rts.
reserv.

06988486 BIOSIS NO.: 000089083750

EXPRESSION OF THE AMINO-TERMINAL HALF-MOLECULE OF
HUMAN SERUM TRANSFERRIN IN CULTURED CELLS AND
CHARACTERIZATION OF THE RECOMBINANT PROTEIN
AUTHOR: FUNK W D, MACGILLIVRAY R T A, MASON A B, BROWN
S A, WOODWORTH R C
AUTHOR ADDRESS: DEPARTMENT OF BIOCHEMISTRY,
UNIVERSITY OF BRITISH COLUMBIA, VANCOUVER, BRITISH
COLUMBIA V6T 1W5.

JOURNAL: BIOCHEMISTRY 29 (6). 1990. 1654-1660. 1990 FULL
JOURNAL NAME: Biochemistry

CODEN: BICHA RECORD TYPE: Abstract LANGUAGE: ENGLISH

ABSTRACT: A human liver cDNA library was screened with a synthetic
oligonucleotide, complementary to the 5' region of human transferrin
mRNA, as a hybridization probe. The full-length human cDNA clone
isolated from this screen contained part of the 5' untranslated region, the
complete coding region for the signal peptide and the two lobes of
transferrin, the 3' untranslated region, and a poly(A) tail. By use of
oligonucleotide-directed mutagenesis in vitro, two translational stop codons
and a HindIII site were introduced after the codon for Asp-337. This
fragment was inserted into two different expression vectors that were then
introduced into Escherichia coli. As judged by Na₂SO₄-polyacrylamide
gel electrophoresis and Western blot analysis, however, recombinant
hTF/2N was undetectable in bacteria transformed by these plasmids.
Concurrently, we developed a plasmid vector for the expression of
recombinant hTF/2N in eukaryotic cells. In this case, a DNA fragment
coding for the natural signal sequence, the hTF/2N lobe, and the two stop
codons was cloned into the expression vector pNUT, such that the
expression of hTF/2N was controlled by the mouse metallothionein
promoter and the human growth hormone termination sequences. Baby
hamster kidney cells containing this hTF/2N-pNUT plasmid secreted up to
20 mg of recombinant hTF/2N per liter of tissue culture medium.
Recombinant hTF/2N was purified from the medium by successive
chromatography steps on DEAE-Sepharcel, Sephadex G-75, and FPLC on
Polyamion SL. The purified protein was characterized by Na₂DSO₄-PAGE,
urea-PAGE, amino-terminal sequence analysis, UV-visible spectroscopy,
iron-binding titration, and proton NMR. By these criteria, the recombinant
hTF/2N appeared to behave identically with the proteolytically derived
half-molecule, but to show a higher degree of monodispersity than the latter
protein. Addition of m-fluorotyrosine to the culture medium resulted in
random incorporation of this amino acid into cellular protein in lieu of
tyrosine. Purified recombinant 19F-Tyr hTF/2N gave four well-resolved
19F NMR resonances of 20-40 Hz line width, two with suggestions of
shoulders.

9/7/9 DIALOG(R)File 5:Biois Previews(R) (c) 2001 BIOSIS. All rts.
reserv.

04329766 BIOSIS NO.: 000078059310

HUMAN TRANSFERRIN COMPLEMENTARY DNA
CHARACTERIZATION AND CHROMOSOMAL LOCALIZATION
AUTHOR: YANG F, LUM J B, MCGILL J R, MOORE C M, NAVLOR S
L, VAN BRAGT P H, BALDWIN W D, BOWMAN B H
AUTHOR ADDRESS: DIV. GENETICS, UNIV. TEXAS HEALTH SCI.
CENT. SAN ANTONIO 7703 FLOYD CURL DRIVE, SAN ANTONIO,
TEX. 78284.

JOURNAL: PROC NATL ACADEM SCI U S A 81 (9). 1984. 2752-2756. 1984
FULL JOURNAL NAME: Proceedings of the National Academy of
Sciences of the United States of America

CODEN: PNASA RECORD TYPE: Abstract LANGUAGE: ENGLISH

ABSTRACT: Transferrin (Tf) is the major Fe binding protein in vertebrate
serum. It shares homologous amino acid sequences with 4 other proteins:
lactoferrin, ovotransferrin, melanoma antigen p97 and HbD₁m-1.
Antigen p97 and the Tf receptor genes have been mapped on human
chromosome 3. The characterization of the Tf gene was initiated by
identifying and characterizing its complementary DNA and mapping its
chromosomal location. Recombinant plasmids containing human cDNA
encoding Tf were isolated by screening an adult human liver library with a
mixed oligonucleotide probe. Within the 2.3 kbse pairs of Tf cDNA
analyzed, there is a probable leader sequence encoded by 57 nucleotides
followed by 2037 nucleotides that encode the homologous amino and

carboxyl domains. During evolution, 3 areas of the homologous amino and carboxyl domains were strongly conserved, possibly reflecting functional constraints associated with Fe binding. Chromosomal mapping by in situ hybridization and somatic cell hybrid analysis indicates that the Tf gene is located at q21-q22 on human chromosome 3, consistent with linkage of the Tf, Tf receptor, and melanoma p97 loci.

9/7/10 DIALOG(R)File 5: Biosis Previews(R) (c) 2001 BIOSIS. All rights reserved.

04313739 BIOSIS NO.: 000078043282
CLONING OF DOUBLE STRANDED DNA TRANSCRIBED FROM RAT TRANSFERRIN MESSENGER RNA
AUTHOR: RYSKOV A P, TIMCHENKO N A, TIMCHENKO L T, SALKHOV T A, GAITSKHOKI V S
AUTHOR ADDRESS: INST. MOL. BIOL., ACAD. SCI. USSR, MOSCOW, USSR.

JOURNAL: MOL. BIOL. (MOSC) 18 (1). 1984. 104-114. 1984 FULL JOURNAL NAME: Molekulyarnaya Biologiya (Moscow) CODEN: MOBIB
RECORD TYPE: Abstract LANGUAGE: RUSSIAN

ABSTRACT: Two-stage synthesis of double-stranded DNA was performed using purified rat transferrin mRNA as a template, reverse transcriptase and DNA polymerase I. Double-stranded transcripts of transferrin mRNA were cloned as recombinant plasmid derivatives of pBR322. The insert length in these plasmids varied from 150-1500 bp [base pairs]. Clones carrying transferrin mRNA sequences were identified using colony hybridization and Southern blot hybridization with 32P-labeled complementary DNA probe. Nick-translated DNA from transformed clones hybridized with a single component of rat liver polysomal RNA that corresponded to transferrin mRNA in its MW (0.86 MD [mean deviation]). In hybridization selection cell-free translation test, cloned plasmid DNA hybridized specifically with rat liver poly(A)+RNA that programmed the cell-free synthesis of a polypeptide identical to pretransferrin in antigenic properties and MW.

9/7/11 DIALOG(R)File 5: Biosis Previews(R) (c) 2001 BIOSIS. All rights reserved.

04241248 BIOSIS NO.: 000077067293
ISOLATION OF COMPLEMENTARY DNA CLONES FOR THE HUMAN TRANSFERRIN RECEPTOR
AUTHOR: SCHNEIDER C, KURKINEN M, GREAVES M
AUTHOR ADDRESS: MEMBRANE IMMUNOL. LAB, IMPERIAL CANCER RES. FUND, LINCOLN'S INN FIELDS, LONDON WC2A 3PX, UK.

JOURNAL: EMBO (EUR. MOL. BIOL. ORGAN) J 2 (12). 1983. 2259-2264. 1983 FULL JOURNAL NAME: EMBO (European Molecular Biology Organization) Journal CODEN: EMJOD RECORD TYPE: Abstract LANGUAGE: ENGLISH

ABSTRACT: A complementary DNA clone bank containing 30,000 clones was constructed from sucrose gradient-fractionated mRNA from human placenta. mRNA coding for transferrin receptor (TR) was enriched by polyosome immunoadsorbed chromatography with monospecific rabbit IgG and protein-A Sepharose. The library was screened for hybridization to 32P-labeled cDNA synthesized from immunoselected TR mRNA and from poly(A)+ RNA of the polyosome fraction that failed to bind to protein-A Sepharose. Plasmids isolated from colonies showing hybridization only to the probe made from immunoselected mRNA were then subjected to hybrid selection. Two clones, pTR-48 and pTR-67, were able to hybridize the mRNA coding for the TR.

9/7/12 DIALOG(R)File 5: Biosis Previews(R) (c) 2001 BIOSIS. All rights reserved.

04136239 BIOSIS NO.: 000027045791

IDENTIFICATION CHARACTERIZATION AND MAPPING HUMAN TRANSFERRIN COMPLEMENTARY DNA

AUTHOR: YANG F, LUM J B, MCGILL J R, MOORE C M, VAN BRAGT P H, BALDWIN W D, BOWMAN B H
AUTHOR ADDRESS: UNIV. TEX. HEALTH SCIENCE CENTER, SAN ANTONIO, TEX. 78284.

JOURNAL: SYMPOSIUM ON GENES AND CANCER HELD AT THE 13TH ANNUAL UCLA (UNIVERSITY OF CALIFORNIA - LOS ANGELES) SYMPOSIUM, LOS ANGELES, CALIF. USA, FEB. 11-17, 1984. J CELL BIOCHEM 0 (8 PART A). 1984. 42. 1984 CODEN: JOBSD
DOCUMENT TYPE: Meeting RECORD TYPE: Citation LANGUAGE: ENGLISH

10/6/1 12893868 BIOSIS NO.: 200100103017
Novel gene delivery systems: Complexes of fusogenic polymer-modified liposomes and lipoplexes. 2001

10/6/2 12786756 BIOSIS NO.: 200000540379
Rev-binding aptamer and CMV promoter act as decoys to inhibit HIV replication. 2000

10/6/3 12731730 BIOSIS NO.: 200000485232
Rev-binding aptamer and CMV promoter act as decoys to inhibit HIV replication. 1999

10/6/4 12647088 BIOSIS NO.: 200000400590
Requirement of the Pseudomonas aeruginosa tonB gene for high-affinity iron acquisition and infection. 2000

10/6/5 12561353 BIOSIS NO.: 200000314855
Successful transfection of lymphocytes by ternary lipoplexes. 1999

10/6/6 12481942 BIOSIS NO.: 200000235444
Antigen-specific induction of peripheral T cell tolerance in vivo by codelivery of DNA vectors encoding antigen and Fas ligand. 2000

10/6/7 12330172 BIOSIS NO.: 2000000383674
Trafficking of Glut4-Green Fluorescent Protein chimerae in 3T3-L1 adipocytes suggests distinct internalization mechanisms regulating cell surface Glut4 levels. 1999

10/6/8 12328409 BIOSIS NO.: 200000081911
Antibody-mediated endocytosis of G250 tumor-associated antigen allows targeted gene transfer to human renal cell carcinoma in vitro. 1999

10/6/9 12001050 BIOSIS NO.: 199900281569
Separation of plasmid DNA from protein and bacterial lipopolysaccharides using displacement chromatography. 1999

10/6/10 11840735 BIOSIS NO.: 199900086844
Gene transfer by DNA-gelatin nanospheres. 1999

10/6/11 11769149 BIOSIS NO.: 199900015258
Invasion of Caco-2 cells and iron-acquiring mechanisms by enterovirulent Escherichia coli isolates. 1998

10/6/12 11697735 BIOSIS NO.: 199800479466
Enhanced reporter gene expression in cells transfected in the presence of DMT-2, an acid nuclease inhibitor. 1998

10/6/13 11656641 BIOSIS NO.: 199800438372
Controlled gene delivery by DNA-gelatin nanospheres. 1998

10/6/14 11609830 BIOSIS NO.: 199800391593
Enhancement of cationic liposome-mediated transfection by laetoferrin. 1998

10/6/15 11224430 BIOSIS NO.: 199800005762
Stabilization of gene delivery systems by freeze-drying. 1997

10/6/16 10909445 BIOSIS NO.: 199796930590
Development of gene transfer strategies for the treatment of neuroblastoma. 1997

10/6/17 10787982 BIOSIS NO.: 199799409127
Utilization of host iron sources by Corynebacterium diptheriae: Identification of a gene whose product is homologous to eukaryotic hem oxygenases and is required for acquisition of iron from heme and hemoglobin. 1997

10/6/18 10513372 BIOSIS NO.: 199699134517
Abrogation of p27-Kip1 by cDNA antisense suppresses quiescence (G-0 state) in fibroblasts. 1996

10/6/19 10467929 BIOSIS NO.: 199699089074
Role of catechol siderophore synthesis in Vibrio vulnificus virulence. 1996

10/6/20 10384665 BIOSIS NO.: 199699005810
Glycerol enhancement of ligand-polylysine/DNA transfection. 1996

10/6/21 09903150 BIOSIS NO.: 199497511520
Identification of a locus involved in the utilization of iron by Haemophilus influenzae. 1994

10/6/22 09362564 BIOSIS NO.: 199497370934
CCC UGA: A new site of ribosomal frameshifting in Escherichia coli. 1994

10/6/23 08935853 BIOSIS NO.: 199396087354
Induction of oxidative single- and double-strand breaks in DNA by ferric citrate. 1993

10/6/24 08923461 BIOSIS NO.: 199396074962
Isolation and analysis of a linear plasmid-located gene of Borrelia burgdorferi B29 encoding a 27 kDa surface lipoprotein (P27) and its overexpression in Escherichia coli. 1993

10/6/25 08888980 BIOSIS NO.: 199396040481
Systemic immunological effects of cytokine genes injected into skeletal muscle. 1993

10/6/26 08878125 BIOSIS NO.: 199396029626
Presence of a capsule in Vibrio vulnificus biotype 2 and its relationship to virulence for eels. 1993

10/6/27 08113399 BIOSIS NO.: 000093112747
YERSINIA-RUCKERI PRODUCES FOUR IRON-REGULATED OUTER MEMBRANE PROTEINS BUT DOES NOT PRODUCE DETECTABLE SIDEROPHORES 1991

10/6/28 08050149 BIOSIS NO.: 000093083497
MAINTENANCE OF LIVER FUNCTION IN LONG TERM CULTURE OF HEPATOCYTES FOLLOWING IN-VITRO OR IN-VIVO HA-RAS-E-J TRANSFECTION 1991

10/6/29 07974309 BIOSIS NO.: 000093041887
VIRULENCE-ASSOCIATED FACTORS OF SALMONELLA FROM MOLECULAR BIOLOGY TO DIAGNOSIS 1991

10/6/30 06846793 BIOSIS NO.: 000089005985
EFFECTS OF VARIOUS CHEMICAL AGENTS ON THE TRANSFORMATION OF RAT FIBROBLASTS BY AN ACTIVATED C-HA-RAS ONCOGENE 1989

10/6/31 06573630 BIOSIS NO.: 000087015791
IRON REGULATION OF SERRATIA-MARCESCENS HEMOLYSIN GENE EXPRESSION 1988

10/6/32 06054493 BIOSIS NO.: 000085017642
TRANSFORMATION OF DIFFERENTIATED RAT HEPATOCYTES WITH ADENOVIRUS AND ADENOVIRUS DNA 1987

10/6/33 04051254 BIOSIS NO.: 000026044314
THE GENETICS OF PLASMID MEDIATED VIRULENCE IN THE MARINE FISH PATHOGEN VIBRIO-ANGUILLARUM 1983

10/6/34 03828780 BIOSIS NO.: 000075006853
CHARACTERIZATION OF THE TRANSLATION PRODUCTS OF THE MAJOR
MESSENGER RNA SPECIES FROM RABBIT LACTATING MAMMARY
GLANDS AND CONSTRUCTION OF BACTERIAL RECOMBINANTS
CONTAINING CASEIN AND A LACT ALBUMIN COMPLEMENTARY DNA
1982

10/6/35 03289746 BIOSIS NO.: 000072017849
OUTER MEMBRANE PROTEINS INDUCED UNDER CONDITIONS OF IRON
LIMITATION IN THE MARINE FISH PATHOGEN VIBRIO-ANGUILLARUM 775
1981

10/6/36 03253321 BIOSIS NO.: 000071066432
REGULATION OF GENE TRANSCRIPTION BY ESTROGEN AND
PROGESTERONE LACK OF HORMONAL EFFECTS ON TRANSCRIPTION BY
ESCHERICHIA-COLI RNA POLYMERASE 1980

10/6/37 02950453 BIOSIS NO.: 000069058571
IRON UPTAKE SYSTEM SPECIFIED BY COL.-V PLASMIDS AN
PORTANT COMPONENT IN THE VIRULENCE OF INVASIVE STRAINS OF
ESCHERICHIA-COLI 1979

10/6/38 02876089 BIOSIS NO.: 000019046707
A PLASMID ASSOCIATED WITH VIRULENCE IN THE MARINE FISH
PATHOGEN VIBRIO-ANGUILLARUM SPECIES AN IRON SEQUESTERING
SYSTEM 1980